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The role and efficacy of phonics instruction in the early literacy development of young Taiwanese EFL learners

Ling-Chun Kuo

A thesis submitted for the degree of Doctor of Philosophy
in English Language Teaching and Applied Linguistics

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Abstract

In recent years, phonics instruction in early literacy education has gained in popularity due to its critical role in facilitating phonological awareness and processing skills, said to enable the self-teaching mechanism inherent in an alphabetic language. These claims are based on research on L1 learners of English, however: little has been reported on the utility of phonics instruction for foreign language learners. This study therefore investigated young Taiwanese learners of English who had undergone phonics instruction as part of their EFL programme of study. Textbook analysis, teacher interviews, a student questionnaire, and a battery of diagnostic tests and tasks were used to uncover the role and efficacy of phonics in Taiwanese EFL learners' literacy development as well as the underlying factors that contribute to shape its role and affect its efficacy.

The data was analyzed both quantitatively and qualitatively and findings related to the presentation and practice of phonics teaching in class, teachers' and learners' perceptions and beliefs related to phonics and English literacy, and learners' strategy use in oral reading, spelling and word learning were analyzed and discussed. The results revealed that due to the influences of socio-contextual constraints, learners' insufficient phonological skills, the absence of a well-developed spoken system in the learners, and a distinctive L1 writing system, phonics plays a distinctively different role for young Taiwanese learners of English from the one it plays for English L1 learners.

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List of Tables and Figures

List of abbreviations

DfE	Department for Education
EFL	English as a foreign language
ELT	English Language teaching (to nonnative speakers)
EL1	Learners learning English as the first language
FL	foreign language
IPA	international phonetic alphabet
K.K.	The Kenyon and Knott adaptation of the IPA
L1	first language
L2	second language
MoE	Ministry of Education
NICHD	National Institute of Child Health and Human Development
NICT	National Institute for Compilation and Translation
NLS	National Literacy Strategy
RP	Received Pronunciation
US	United States
ZYFH	Zhu-Yin-Fu-Hao (the Chinese phonetic symbols)

Chapter 1 Setting the Scene

1.1 Introduction

Learning to read is among the most important of the academic skills that provide the foundation for a child's future success at school. Not surprisingly, a substantial amount of research has been carried out on the cognitive antecedents of reading as well as the factors that contribute to literacy development (Pretorius & Mampuru, 2007). However, although researchers are in broad agreement that various linguistic, sociocultural, socioeconomic and developmental factors in home, school and classroom contexts impact directly or indirectly on language development and reading achievement, there continues to be fierce debate in English-speaking countries about how best to teach children literacy (Harrison, 2004). At the center of this 'great debate' (Chall, 1983) involving researchers, policy makers and educators is the disagreement between those who place great emphasis on bottom-up approaches that focus on breaking the code and those who endorse instruction that relies on a meaning-emphasis (top-down) approach.

In recent years, with increasing evidence from cognitive science revealing a strong link between success in literacy and phonemic awareness and phonological skills (Anderson, 2004; Goswami & Bryant, 1990) and with the governments of English-speaking countries endorsing ‘scientifically’ based research (Schemo, 2002), phonics, a code-breaking approach, has become central in teaching literacy, especially at the initial stage of literacy learning.

Consequently, despite social-oriented researchers' continued questioning of the validity of the scientifically-based research on the pedagogy of reading, the teaching of phonics is now effectively mandatory in state schools in the US, UK (Gregory, 2008; Harrison, 2004), Australia and New Zealand (Bowey, 2006). Due to the increasingly pervasive influence of governments of English-speaking countries in determining the curriculum and research agenda for literacy, phonics instruction has also become a part of English L2 early literacy instruction, and phonics programmes have mushroomed in non-L1 contexts all over the world. However, unlike phonics for English L1 learners, which has seen a wide array of research lending support to its efficacy, there is a perceptible gap in research-based validation of phonics teaching for FL or L2 learners. The absence of such research raises the question of whether phonics is equally effective in English literacy learning irrespective of learners and the learning context, or whether learners of a particular L1 orthography or context may benefit more from a different approach. It is believed here that intrinsic differences exist between L1 and FL learners and that the common approach to literacy may have entirely different implications for foreign language learners. Additionally, the value of any teaching approach can only be assessed in its social context. This study represents an attempt to contribute to the area in which research on L2 English literacy instruction is most lacking, i.e. research into the implementation and effect of phonics instruction in a non-English environment. Set within a Taiwanese English classroom and social context, this study sets out to investigate how educational principles, L1 orthography, teachers' and learners' beliefs and

attitudes, and teachers' practices affect the implementation and efficacy of phonics teaching for foreign language learners.

1.2 The context for the study

1.2.1 English education at school

In Taiwan, English is a foreign language. It is not required in daily communication and exposure to it is usually limited to English classrooms. Prior to 2001, the official starting point of formal English education was the first year of junior high school (12/13 year-olds). In 2001, the Ministry of Education (MoE) in Taiwan initiated an education curriculum reform, the 'Grade 1-9 (primary year 1 to junior high year 3) Integrated Coordinated Curriculum,' that moved English education forward to year 5 (age 10/11) of primary school, and in 2005 this was further advanced to year 3 (8/9 year-olds). Three ultimate goals for English education were formulated: to develop learners' basic communicative competence, to cultivate learners' interest and learning skills, and to familiarize learners with local and foreign culture.

The Nine-Year Integrated Curriculum also aims to diversify and increase the flexibility of school education according to local and student needs by ceding authority for choosing teaching materials to local government, schools and teachers. The central government retains responsibility for providing mechanisms

for curriculum evaluation and setting up curriculum guidelines and academic attainment indicators for each curriculum area, with which all textbooks should be in compliance. For English at primary school level the MoE clearly states that listening and speaking should be the focus of the English syllabus, yet it has also issued guidelines explicitly prioritizing letter recognition, phonics skills and word identification over other skills. Learners are expected to be able to recognize the 26 letters of the alphabet, upper and lower case, apply phonics rules to pronounce words, and spell at least 180 words at the end of primary school. The MoE does not specify what words learners are expected to be able to sound out as the result of phonics instruction, but it does provide a list of 1200 basic words as part of the basis for primary school English textbook compilation. In the guidelines, the knowledge of letter-sound relationships and the ability to apply this knowledge to sound out words are greatly emphasized. Interestingly, however, although the government places phonics teaching under ‘the teaching of reading’ in the curriculum guidelines and defines the learning objective for phonics as ‘to enable learners to use basic phonics rules to sound out words’ (MoE, 1999), it also makes two other references to phonics. One explains that learners should be made aware of sound-letter relationships and should attempt to sound words out and spell words using phonics rules. The other states that in reading, learners should make attempts to sound out and recognise words that occur frequently in the main content of each lesson using phonics rules. The former statement indicates the government’s recognition of the benefits of phonics in facilitating learners’ word reading and spelling ability. The latter, however, involves ‘word

recognition' and suggests that phonics is expected to help learners to gain access to word meaning. However, in the government's materials guidelines, phonics is placed under pronunciation. Hence phonics is expected to function as a pronunciation guide and as a mediator between spoken and written forms of the language. Although the official government document states that education policies are based on research in education and social development, explicit documentation of the relevant research underpinning the decision to choose phonics as the literacy approach and details of how such skills should be introduced are absent.

Before the 2001 education reform, K.K.[1], a phonetic system consisting of 41 American English sounds (see Appendix 1.1 for a conversion chart of K.K. and IPA vowel phonemes) was used as a mediator between the pronunciation of a word and its printed form. All junior high school students were required to learn the 41 phonetic symbols at the beginning of English courses in a manner that resembled the much acclaimed synthetic phonics approach. Once K.K. was learned, learners would then be exposed to print words. Each new vocabulary entry appeared in textbooks with its K.K. phonetic symbols and stress pattern marked, enabling learners to sound out all words accurately. Every entry in every learner's English dictionary had the K.K phonetic symbols and stress pattern marked next to or beneath the word. Hence, knowing K.K. allowed learners independent access to word meanings and sounds. Though K.K. is still taught in

[1] K.K. is a phonetic alphabet adapted from the IPA by two American linguists, John Kenyon and Thomas Knott; hence the name K.K. The symbols were first used in 'A Pronouncing Dictionary of American English (1944 & 1953)' for which they were key contributors.

junior high school, its importance has lessened and its practice diminished. The symbols are now taught in conjunction with the review of phonics rules and new vocabulary is no longer presented with its accompanying phonetic symbols.

The MoE specifically dissuades the teaching of K.K. to primary school learners on the basis that it may confuse young learners because many of the K.K. symbols resemble letters of the alphabet. Such a contention does not appear to be based on any research findings; in addition, following the same line of argument, there may be a greater possibility that young learners will confuse letter names with letter sounds when being taught the English alphabet. The MoE curriculum reforms give phonics a central role in teaching despite the absence of research evidence for the efficacy of a phonics approach. In the wake of the reforms a huge number of textbooks (more than 80) came onto the market, all of which observed the curriculum guidelines and endorsed phonics teaching. Though the MoE also ‘encourages’ schools to establish committees to examine and review the designed programme and to evaluate the implementation of the developed curriculum, and has provided regulations and requirements for reviewing textbooks, there does not appear to be a faculty specifically to evaluate the result of classroom implementation of the textbook lessons. As all textbooks differ in their emphasis on aspects of learning, the extent to which different textbooks affect the process/acquisition of phonics skills awaits research specification.

1.2.2 English learning outside compulsory schooling

There are great disparities in English abilities of students starting state-provided English education, and these disparities exist throughout primary school. A major factor that contributes to this is that learners are exposed to different amounts of English teaching prior to and while within compulsory state-provided schooling. For parents who hold a strong conviction that one of the best ways to secure their children a promising future is via mastery of English, exposure to English from pre-school is considered essential (Wu, 2001). In Taiwan, this view is prevalent and many parents seek to expose their children to the English language as early as possible. To attract enrolment, therefore, almost all kindergartens (for children aged two to five) include English language teaching in the curriculum. As 96% of young learners in Taiwan start their schooling in kindergarten (2002 MoE survey), it can be claimed that most children have their first exposure to English language teaching in kindergarten. Nonetheless, as the government does not encourage English learning at preschool level, there exist neither regulations nor guidelines relating to the quantity and quality of input. As the varieties of kindergarten range from whole day English kindergartens which employ full-time native English speakers to bilingual kindergartens which devote up to half the day solely to English language teaching to normal kindergartens which spend up to one or two hours a week on simple vocabulary, English songs, chants or letter recognition, there are huge differences in the amount of English, both written and spoken, that preschool learners are exposed to. It is not unusual for young learners attending bilingual kindergartens to have been taught most basic phonics rules and be able

to read short stories in English, whereas those finishing an ordinary kindergarten might know only a handful of spoken words. Exposure to English outside compulsory schooling is not limited to kindergarten, however. Parents were sending their children to private English institutes long before the introduction of English into the primary school curriculum and before English teaching had become prevalent in kindergarten. Those primary school children who attend private English institutes after school or on weekends receive between two and ten hours of teaching per week depending on the enthusiasm and resources of their parents. The inclusion of English in the school curriculum has not diminished this trend for private tuition: partly because of the dissatisfaction and lack of faith in the quality and quantity of English language tuition provided in primary school and partly because of the desire to maintain a competitive edge at school, more parents now feel compelled to send their children to private English institutes. Indeed, a recent statistic indicates that in the prior five years, the number of private English institutes had increased by 50% (Chen, 2006). There are now more than five thousand English private institutes across the island, exceeding the number of primary schools (Chan, 2005). Most of the private institutes belong to one of six major chained enterprises, each of which has developed its own sets of teaching materials and methods. However, all of them embrace the mainstream belief that phonics is the most effective way of exposing young children to English print. There seems to be a consensus that phonics enables learners to sound out words without having to use a dictionary and to spell out words with ease.

A majority of primary school learners in Taiwan have at least two years exposure to English teaching outside the school classroom through attending private institutes or a personal tutor (Chan, 2005). However, as there exists such divergence in the materials and teaching methods, the particular kindergarten, private institute and primary school a child attends may all play a role in performance.

1.2.3 English in the broader social context

The population of Taiwan consists of multi-ethnic groups. As the result of some four decades of hegemonic enforcement of a National Language Movement until 1987, an absolute majority of Taiwanese people can speak Chinese, while Southern Min (Taiwanese) continues to be commonly used (Li, 2006). As well as promoting English, in order to promote respect for and understanding of the minority cultures (mostly Aborigines and Hakka) in Taiwan, the government has devoted great effort to the preservation of indigenous languages in recent years. Consequently, in addition to Chinese and English, young learners are also taught Min, Hakka and some forms of aboriginal languages in so-called ‘language arts’ classes. Such a policy may serve to eliminate concerns for potentially adverse effects that English might have on the society’s indigenous culture. It is unclear whether such language policy has had any significant impact on learners’ perception of either English or the minority languages. Its perceptible impact though is that learners’ limited school time is further divided among several

different language classes. In primary school, there are eleven subjects encompassing seven curriculum areas including language, physical education and health, society, arts, mathematics, science and technology, and combined activities. Each school differs slightly in the degree of importance it places on each subject. However in general, English, as a relatively new school subject, does not yet carry the same weight in the school curriculum as other core subjects (Chinese, Maths, Science, Social Studies, etc). In 2005, a survey revealed that 57% of elementary schools devote one session (40 minutes) per week to English, 35% spent two sessions and 7% spent three sessions or more, in contrast to the average of four to five sessions on other core school subjects (Wang, 2005). There has been a wide expectation that schools will extend the hours of English tuition. However, with the government's intention to promote English as well as local and minority languages without affecting other core subjects, the realization of such an expectation may not be easily achieved in the foreseeable future.

Another factor that is believed to affect English learning is the prevalent examination oriented culture in Taiwan. Historically, academic achievement is intrinsically linked to career prospects and social status. Consequently, getting their children into the best schools is the primary concern of most parents. Schools are fierce battle grounds, with the academic success or failure of each individual learner under constant public observation. This has the potential to detrimentally affect learners' self-perception and may also determine classroom practice, students' learning strategies and the way they interpret and approach

English literacy. Coping with the test demands of multiple school subjects may also affect the nature of the learners' involvement with English literacy out of school.

Finally, perhaps the most crucial factor that inhibits learners' English development is one that is typical of all EFL learning environments; English is not required for daily communication. Despite the society's overwhelming enthusiasm for English education, the majority of learners do not have opportunities to put the language skills learned in class into purposeful communication in real life. Unless learners deliberately seek out available English media, exposure to English is limited to English classrooms. In other words, exposure to the language outside English classrooms relies greatly on learner autonomy. Nonetheless, whether classroom approaches (e.g. phonics) prepare autonomous learners with adequate skills for independent learning outside class is another issue that policy makers need to seriously address.

Approaches to literacy that succeed in an L1 context do not necessarily produce success in a FL environment, and having a policy does not equate to its successful implementation. To determine the role phonics plays in literacy acquisition in Taiwan it is essential to bear in mind many of the dynamic cognitive and social variables.

1.2.4 Teacher training

In order to cope with the sudden surge in demand for qualified teachers able to teach English at the inception of primary school English education in 2001, the government held nationwide examinations to recruit English teachers in 1999. A primary school English training program was also set up to train the new recruits. Under the program, the trainees were exposed to two and a half years of training that included six months of intensive training in language proficiency and English teaching methods, one year on general knowledge of primary school education and one year on internship. ELT methodology was a 120-hour program consisting of seven subjects, as listed in Table 1.1.

Table 1.1 ELT Methodology Program (Adapted from Zian, 2000)

Course title	Course content	Hours
Language teaching methodologies for primary school English learners	● Primary school English teaching materials ● Teaching methods (TPR, audio-lingual, communicative language teaching etc.) ● Classroom English ● Games and activities ● Theories of teaching listening, speaking, reading and writing	28
Classroom observation and teaching practice	● Principles in material design ● Teaching skill training ● Trial teaching ● Classroom observation	24
Children's foreign language acquisition	● Theories of child language acquisition ● Stages in foreign language acquisition ● Relationship between teaching and learning	16

Methods of teaching English pronunciation	● Methods and techniques in teaching vowels, consonants, diphthongs, stress, intonation and phonics	16
Activity design for English teaching programs	● Activity design for listening, speaking, reading, writing, vocabulary and grammar practice	16
English language assessment and evaluation	● Principles for teaching evaluation ● Skills in designing test questions ● Evaluation and design of test questions	14
Songs and chants	● The content of songs and chants ● Methods of teaching songs and chants	6

Although the teaching of phonics is included in the program, it forms a small part of a 16 hour course and is listed under the teaching of pronunciation, as it is in the official guidelines for material design. The positioning of phonics under the teaching of pronunciation is probably indicative of the general conception of the role of phonics. However, as it is also placed under the teaching of reading in the curriculum guidelines, it is surprising that no independent course was set up to address its teaching. As phonics is only a part of a 16 hour course, the amount of time devoted to this part of the training may be very limited. In addition, given only the title of the subjects and some general guidelines on the content of the course were provided, it was also up to the six teacher colleges which carried out the training program to decide on the specific knowledge the teachers need to teach phonics. In other words, the training the teachers received may vary greatly. As phonics teaching is viewed as an essential part of the primary school English curriculum, the attention it received in the training course seems not to reflect its stated importance in the curriculum guidelines.

1.2.5 Literacy in Chinese

In Taiwan, the sounds of Chinese characters are taught via an intermediary phase based on a system called Zhu-Yin-Fu-Hao (ZYFH - Chinese phonetic symbols), which consists of 37 non-alphabetic symbols representing all the basic Chinese sounds (see Appendix 1.2). The symbols are also divided into 'core sounds' (21 symbols) which are equivalent to consonants in English and 'rhyme sounds' (16 symbols) which comprise of either a consonant and a vowel, a combination of vowels, or a vowel alone (for more information, see Chapter 2).

In a typical primary school, the first 10 weeks of Chinese lessons are spent on the teaching of the ZYFH symbols. Learners are required to memorize the sounds of all the symbols as well as to practice segmenting and assembling the symbols to form sounds of real words. The first texts learners are exposed to are usually written in ZYFH alone without Chinese characters. Hence, the first stage of learning to read in Chinese involves extensive use of learners' phonological processing skill. When learners become skilled users of ZYFH in grade 2, Chinese characters are introduced alongside their corresponding ZYFH symbols. In other words, ZYFH serves as a mediator between spoken and written Chinese. Once the learners are well acquainted with the sound symbols, provided that characters in texts come with their corresponding ZYFH, learners are able to gain access to the meaning of the text as well as build up the meaning-character link independently. However, to be able to read a normal text which typically does not

contain ZYFH symbols, learners need to build up a sufficient level of receptive vocabulary in Chinese. In school, the provision of the sound symbols stays until learners reach grade 5 (age 10/11).

The function of ZYFH for Taiwanese learners closely resembles that of phonics for English L1 learners in that they both serve as a mediator between the written and spoken forms of the language. However, phonics does not consist of symbols but is an abstract sound-letter link system which does not have a one sound to one letter relationship. In addition, knowledge of ZYFH does not help with writing Chinese characters as phonics does with English spelling. The acquisition of Chinese characters relies strongly on the use of visual memory. The most typical methods used to facilitate learners' ability to recognize as well as reproduce characters are repeated word copying and frequent exposure to the same texts. To sum up, in Taiwan literacy acquisition in Chinese requires the use of both phonological and orthographic processing skills.

1.3 Motivation behind the study

Kachru (1994: 136) has called English 'the language of mobility', implying that it gives access to avenues which might otherwise be closed. While conversational competence in English may be adequate for the occasional vacation to an English-speaking country, the ability to read English allows true mobility; from work opportunities to text-based communications to access to research and

literature. Additionally, for foreign language learners, reading is the only reliably consistent interactive learning available to them. The better we are able to promote learners' English literacy skills, especially in a foreign language environment like that in Taiwan, the better they are able to transcend the limitations of that environment. In Taiwan, since the inception of the primary school English curriculum, there has been a widely held belief that phonics is essential to developing early literacy acquisition in English and key to successful self-teaching. There is, however, an absence of any valid empirical investigation, meaning that the belief is untested. Indeed, the complexity of literacy teaching is frequently underestimated and little is known about the role and efficacy of phonics in EFL learning. This research aims to determine the role and efficacy of phonics in English learning in a foreign language environment, and how various cognitive and contextual factors interact with the teaching approach. The ultimate goal is to translate the findings into recommendations for classroom practice. It is believed that the research will be enormously valuable for all teachers, educators and policy makers responsible for this learning process.

1.4 Aims of the Study

Underpinning the study is the belief that the effect of language instruction is altered both by the literacy practices specific to the culture and by those specific to individuals important to the learner (e.g. parents). Thus, the primary aim of the study is to investigate the role of phonics in classroom teaching but with a focus

on the interplay between the various social, conceptual, attitudinal and cognitive factors and the role phonics plays in young Taiwanese learners' literacy development. As this role is, to a large extent, also shaped by classroom materials and linked with the amount of spoken repertoire the learners possess, textbook analysis constitutes the secondary focus of the research. It aims to describe, explore and to a certain extent evaluate the weaknesses and strengths of a phonics approach within a Taiwanese social context. Interviews, textbook analysis, questionnaires and a battery of tests and tasks constitute the backbone of this research. It is hoped that the study will draw forth some important aspects for policy makers and teachers to contemplate when teaching literacy in the EFL curriculum. In order that the research offers a more complete picture of phonics teaching in Taiwan, five areas of investigation were covered. The specific research questions this study sets out to answer are:

R1. Textbooks

a) What is the underlying assumption of the role of phonics reflected in the text books?

b) How is phonics taught?

c) To what extent do the phonics rules taught in the textbooks prepare learners for the acquisition of the 1200 basic words, the vocabulary in each lesson and all the sounds in American English?

R2. Teachers' perceptions, beliefs and attitudes related to phonics teaching and

English literacy

a) What are the teachers' perceptions of phonics? How do they perceive the relationship between K.K. and phonics? How do their perceptions affect their attitudes towards phonics teaching?
b) How and when do teachers think phonics should be taught?
c) What are the teachers' views on when best to start the teaching of reading and writing in relation to the teaching of listening and speaking? How do the teachers perceive the relationship between phonics and self-teaching? What are their opinions on young learners' ability to self-teach?

R3. The role of phonics in the teaching process

a) How do the teachers conduct a lesson? How is written and spoken vocabulary taught?
b) Are learners given opportunities to engage in self teaching practice?
c) When and how is vocabulary tested and spelling mistakes scored?
d) To what extent are the teachers aware of the efficacy of phonics instruction on their learners? Are they satisfied with outcomes?

R4. Learners' perceptions, beliefs and attitudes of phonics and English literacy

a) What do students understand of phonics?
b) What do learners' perceptions of and attitudes toward reading in English imply about the efficacy of phonics?
c) How do young Taiwanese learners evaluate their own learning performance

on word reading and spelling?

R5. Learners' learning strategies and the efficacy of phonics

a) To what extent do the learners use their phonics to remember word spelling?
b) To what extent do the learners apply their phonics skills in vocabulary learning tasks?
c) Does phonics enable the learners to comprehend and sound out new words accurately when reading unfamiliar text?
d) What effect does phonics instruction have on learners' ability to differentiate vowel phonemes in words?

1.5. The structure of the thesis

The thesis is divided into eight chapters. Having set the scene in Chapter 1, Chapter 2 reviews the literature relevant to literacy development, sociocultural theory, and phonics instruction. Chapter 3 contains information on the research methods and instruments adopted and a detailed account of the research design. Chapter 4 documents the findings of the textbook analysis. In Chapter 5 a detailed account of the results of the teacher interviews is presented, while Chapter 6 records the outcome of the student questionnaire. Chapter 7 documents the outcomes of the tests and tasks. Finally in chapter 8 a summary of the main findings of the thesis, an overall discussion of the research findings, an examination of the pedagogical implications, the limitations of the study and suggestions for future research are provided.

1.6. Definition of key words in the study

As the same terms can be defined differently in ELT research, it is felt that some key words essential to the understanding of the study need to be clarified. In addition, certain terms may be interpreted differently in another context and some key words used in the studies on the effect of phonics teaching on English L1 learners may have different implications for EFL learning. In order that the study can be better understood, the specific use of these key words used throughout the text is explained here.

- **FL versus L2**

Although FL and L2 are used interchangeably in most of the ELT literature, fundamental differences still exist with regard to the social context of both types of language acquisition, specifically with respect to the amount of exposure to spoken English learners receive. The differences can be substantial when comparing the amount of exposure to spoken English in countries such as Taiwan, Japan or Korea where English is a foreign language with that of places such as Hong Kong, Singapore or Pakistan where it can be considered a L2. As the amount of exposure to spoken English is a major factor in determining the role and efficacy of phonics instruction, phonics may have different implications for L2 learners. Hence, the study maintains the distinction.

- **phonics**

Although different definitions have been found to attach to the term (see the

discussion in Chapter 2), in this study phonics refers to a system that maps sounds (phonemes) to letters (graphemes/ symbols).

- **decode**

To ‘decode’ is to retrieve meaning from print (Oxford Dictionary, 2005). In most studies of phonics, it is used to refer to the process of converting letters to sounds. Successful decoding means correct retrieval of word sounds, which, for L1 learners, also indicates meaning acquisition. However, for EFL learners, decoding may not necessarily result in obtaining the meaning of print words. Hence, the word ‘decode’ in the study is used only to refer to the act of converting letters to sounds, without the implication of simultaneous access to meaning.

- **relational unit**

The term refers to a unit of letters that correspond to a phoneme and may be one or more letters long (Cook, 2004).

- **grade 6 learners**

Grade 6 learners are the students in the sixth year of primary school education. In Taiwan, children enter primary school when they reach age 6. Therefore, typical grade 6 learners are children aged between 12 and 13 years old. However, because of the existence of a Chinese calendar based system of calculating people’s age which typically adds one to two years to the actual age, some of the ages given by the participants in the study may not be their chronological age. In

addition, although the official entrance age for primary school is 6, some determined parents who want their children to have an early start send their five year old children to school through special means. Hence, it is possible that the age of grade 6 learners may differ by 2 to 3 years from what is reported by the participants.

- **phonetic symbols versus phonemic symbols**

Because K.K. phonetic symbols represent phonemes in American English, they are, in effect, phonemic symbols. However, it is widely known as a phonetic alphabet in Taiwan and is termed as such in most of the literature as well as in official documents. Hence, the terms are used interchangeably in the study. The same can be applied to the Chinese phonetic symbols (ZYFH).

1.7 Some text conventions

Some text conventions used are listed here:

- Words used as examples are given in single quotation marks ‘ ’.
- Letters mentioned within the text are italicized.
- The actual sounds are given in phonemic transcript indicated by forward slashes // using the K.K. phonetic alphabet.

Chapter 2 Literature Review

In this chapter, relevant issues related to literacy research, sociocultural theories on language acquisition, approaches to early literacy in English, cognition and literacy acquisition and literacy in a foreign language are discussed. The greater part of this literature review is devoted to the cognitive aspect of literacy development because, as Long & Richards (2004) noted, although language acquisition is a mental process which occurs in a social context, it is intrinsically a matter of acquiring new knowledge. It is believed, therefore, that cognitive factors are fundamental to an account of how and why language acquisition works or fails. In addition, as the present study aims to investigate the role and efficacy of phonics instruction, an account of the cognitive process involved in early literacy acquisition is essential to understanding the implications of phonics teaching for EFL learners.

Nonetheless, in understanding cognitive processes of literacy acquisition, it is important to bear in mind that cognitive behaviour is, to a great extent, conditioned by sociocultural factors. Therefore, understanding the impact of sociocultural factors on the cognitive processes of language and literacy acquisition is crucial to the interpretation of the success or failure of any instructional programs. In the current study the effect of phonics instruction on EFL learners from a distinct social, cultural and language background is investigated, and hence the effect of sociocultural factors associated with this distinct background on the cognition of

literacy acquisition is also examined. Linking sociocultural factors and cognitive development can provide an explanatory framework for understanding many of the findings of the study. Hence, to contextualize the study, the various sociocultural influences on children's literacy development are established at the outset of this literature review.

EFL and English L1 literacy development exhibit fundamental differences, yet the relative dearth of research on early/emergent foreign language literacy acquisition makes the L1 body of research a useful source of information that is difficult to ignore and one that has the potential to provide useful insight into EFL processes. It also needs to be acknowledged here that the present study focuses on children's acquisition of the formal skills of reading and writing with special focus on word recognition and spelling and that this is only a small part of the wide range of literacy behavior.

Throughout this chapter, the implications of L1 research for EFL learning are incorporated into the discussion under the assumption that a clear understanding of the manifold complexities inherent in FL literacy development will enable better identification of the range of difficulties EFL learners are likely to face in learning to read in a new language.

2.1. Understanding literacy and literacy research

Literacy is simply defined in the dictionary as "the ability to read and write" (Oxford Dictionary, 1976: 634). In spite of this apparently simple definition, the term has over the past decades stimulated diverse conceptualizations across disciplines, both of its essence and its construct. Traditionally, the underlying conviction behind literacy teaching was that if reading and writing were analyzed into discrete subskills and knowledge sets and presented and reinforced under appropriate conditions, then every relevant factor in achieving literacy had been attended to (Gillen & Hall, 2003). During the 1980s, however, as a range of ethnographic studies of literacy in a variety of contexts revealed the richness and diversity of literacy practices and meanings, theorists began to systematize new ways of understanding the development, acquisition, and use of literacy, generating a trend of 'New Literacy Studies' (Gee, 1991; Street, 1993). These studies, drawing on the well-developed theories and methodologies of sociolinguistics and the ethnography of communication, explored how local contexts inevitably determine the shapes and uses of literacy. Rather than seeing literacy as a set of portable, decontextualized information processing skills, the new literacy studies reframed it as a set of socially organized practices (Street, 1993). This conceptualization of literacy was subsequently adapted and expanded by researchers from diverse theoretical and philosophical positions (e.g. Fairclough, 1989; Gee, 1996; Gregory, Long & Volk, 2004; Kress, 2004). Due to the emergence of different conceptualizations, research on literacy can now be

divided into two major orientations: an 'autonomous' orientation, which focuses on the formal aspects of encoding and decoding text along with the individual cognitive consequences of the process, and a 'social practices' orientation, which views literacy not as an individual property, but as an activity deeply embedded in social relationships (Bloome & Katz, 2003; Street, 1984; Wiley, 2005, cited in Tarone & Bigelow, 2005). It is argued that whereas the former, embraced mostly by educationalists, linguists and psychologists, is concerned with better reading and writing, the latter, advocated mostly by anthropologists and psycholinguists, is concerned with theorizing and defining what is actually happening (Tarone & Bigelow, 2005).

Although the autonomous and social practices orientations are often discussed as somewhat antithetical, some researchers choose to view them as complementary, believing that each contributes to a more complete notion of literacy. For Verhoeven (1994), for example, grammatical (mastery of phonological rules, lexical items, morphosyntactic rules, and sentence formation rules), discourse, (de)coding, strategic, and sociolinguistic competence together equate to literacy competence. Similarly, Ravid and Tolchinsky (2002), in proposing a model for literacy learning (linguistic literacy), stated that mastery of written language requires a mastery of discourse style (the knowledge that there are many varieties of written language) and the recognition of and ability to produce the representational system used in writing.

The multi-faceted conception of literacy is reflected in some government educational goals. In Britain, for example, although the conventional notion of literacy still underpins the National Literacy Strategy (NLS), which defines literacy straightforwardly as 'the ability to read and write' (DfEE, 1998:3), the 1996 Adult Literacy Survey identifies literacy as the capacity to use 'printed and written information to function in society, to achieve one's goals, and to develop one's knowledge and potential' (Carey, Low & Hansbro, 1997:8). The absence of a social aspect to the NLS statement appears to indicate a belief that the focus of childrens' early literacy instruction should be on the cognitive aspects of literacy. However, it would be wrong to ignore the effects of social practices in early literacy acquisition. Literacy learning is a socially-situated practice (Razfar & Gutiérrez, 2003) and literacy acquisition cannot be properly understood without taking into account the effects of the external mediators of literacy acquisition.

The present research is concerned with childrens' early literacy development and 'literacy' here will refer to the formal skill of reading and writing rather than the social function of literacy. The socially conditioned predispositions and attitudes that may dictate the engagement of cognitive faculties (Atkinson, 2002; Scribner & Cole, 1981) will be identified and their impact on the cognition of the particular set of learners assessed.

2.2 Sociocultural influences in literacy acquisition

Literacy acquisition is now a substantial field of research within which different traditions can be seen. A psychological model once dominated, but the past two decades have seen the development of an essentially socio-cultural model (Barton, 2001). This development has been greatly inspired by Vygotsky's socio-historical theory of cognitive development. Vygotsky (1978) viewed learning as a socially situated and mediated activity in which cognitive development arises as the consequence of socially and historically directed activity within the culture and through the mediation of language as well as other psychological and symbolic means. Vygotsky demonstrated that once children begin to incorporate auxiliary means of mediation into their mental activity, learning is influenced by those means (cited in Lantolf, 1994). He theorized that all cognitive development therefore carries traces of the sociocultural environment in which it occurred. This stressing of the social bases of the mind implies a significant contribution from culture to both cognition and language. Vygotsky's research and insights provide the base for current theory that integrates cognitive, motivational, and social aspects of child development in considering the mediating role of adults in children's learning (Cole, 1996; Rogoff, 1990 & 2003). Instead of regarding learning and cognition as decontextualized information processing, learning is viewed as situated and bound to specific settings (Andersson & Andersson, 2005; Arievitch & Haenen, 2010; Hall, 2002; Stephen, 2010). From a sociocultural perspective, an adequate understanding of how children acquire literacy in a new

language requires an understanding of the various environments in which children learn and the ways in which the mediators of learning in those environments (e.g. adults, organizations, resources) support and shape their learning as well as how learning is affected by past social and cultural experiences.

2.2.1 Home and community influences on literacy development

One of the fundamental recognitions within sociocultural theory is that we learn about the world around us and the language used to express such learning through the reciprocal processes of talking and being talked to, and of listening to and interpreting the talk of others (Smith, 2006). In other words, meaning is not found in the abstract systems of language but is embedded in a wide range of activities that people engage in as they talk and is hence determined by the context of use (Barton, 2001; Baynham & Prinsloo, 2001, Gee, 1999; Hammond, 2001; Arievitch & Haenen, 2005). Thus, although language and literacy constitute powerful semiotic systems for the construction of meanings, it is social activity that provides the reasons to use and therefore the meaning of language. Much literacy research has demonstrated that individuals possess a range of different literacies that they utilize in different contexts (see Barton, 2001). These socially determined literacy practices may help or hinder children's school learning depending on how well or badly they match with classroom literacy practices. Either way, they inevitably have a significant influence on children's school learning.

A substantial literature on child language socialization now exists that documents the active role of young children and the learning that they bring from family and community to the early years school setting. Wells' (1981) pioneering work in the 1970s and 1980s and Kress's (2004) studies showed that children's pre-school experience plays a role in their school literacy acquisition, while Gregory, Long and Volk (2004), Heath (1983), Watson, Douglas, Hodges, McLinden and Hall (2004), Grugeon (2005) and others have reported how young children learn through the mediation of grandparents, siblings, peers and people in the community and how the unofficial literacy practices of the home, community, and popular culture influence school learning. Moreover, student differences (such as socio-economic status, race, bilingualism, gender, and geographic location) can have an impact on how literacy is learned, taught, and assessed (Schieffelin & Gilmore, 1986). Within the L2 literacy sphere specifically, Drury (2004) provided a finely tuned analysis of how a young learner successfully syncretized home and school learning and thereby demonstrated the importance of the social context of home as a supportive environment for learners to practice their newly acquired language. Gregory (2008) conducted multiple detailed case-studies of how young children from diverse language and cultural backgrounds participated in English literacy learning at home and showed that culture-specific literacy practices affect the way parents, grandparents and siblings assist the learner in learning to read in another language.

These studies show that formal school instruction cannot be considered to occur

in a vacuum. The effect of language instruction will be altered both by the literacy practices specific to the culture and by those specific to individuals important to the learner (e.g. parents). For foreign language (FL) learners, the use of the FL at home and in the community is often very limited as many parents and communities cannot themselves use the language. Because literacy practices in the home and community may be limited or absent in FL, those of the classroom may assume a greater importance. Where the home and community does attempt to engage with FL texts with their young learner, an absence of knowledge of the FL makes it likely that literacy practices of the L1 will be utilized. Literacy is a socially constructed concept and social practices around literacy vary between cultures as do the concepts of what is meant by the terms literacy, reading and writing (Besnier 1995; Hasan & Williams, 1996). The application of L1 culture-specific literacy practices can affect how the FL learner views what constitutes literacy and literacy behavior in the FL and the application of L1 literacy practices to FL literacy learning in the home or community therefore raises the potential for conflict between home and school practice. Additional conflicts may arise when the written form of the L1 and FL differ.

L1 literacy practices have been shown to affect the learning of a second language in young learners. Scribner and Cole (1981) studied the Vai tribe in Liberia and found that young learners accustomed to only learning through memorization (L1 Arabic literacy) performed better on incremental recall tasks, while those accustomed to learning through assembling syllables (L1 Vai literacy)

outperformed on tasks that required this skill (cited in Gregory, 2008). This study demonstrates that young learners' literacy practices already established from L1 learning are more readily used in learning a second language and by extension that learners of different L1s may approach a new language differently. To better understand literacy in a foreign language, therefore, it is important to look beyond pedagogy and the classroom and consider the literacy experiences and practices that students bring to their FL learning.

2.2.2 Sociocultural influences on classroom teaching and learning

Culture-specific expectations and dispositions are social in that they are constructed together and shared by members of sociocultural groups (Smith, 2006). At the level of the individual, these expectations and dispositions provide a framework for social group members as they engage with one another (see Levinson, 1992). Individuals' expectations and dispositions related to language and language learning are believed to affect classroom-based language learning outcomes (Gee, 2000).

Research examining the situated meanings and cultural models of literacy practices has provided insights into the pedagogical consequences of social and cultural perspectives on learning as well as the sociocultural dimensions of language teaching and learning in the classroom. In a study of a single multiethnic primary school class in England, Hall (2002) found that beliefs about and attitudes towards literacy were constructed through teacher talk and teacher-student

discourse. Two different models of literacy emerged. One presupposes the transmission of skills and emphasized the acquisition of those skills, at least in part through conscious effort and thought. The second model presupposes that very young children will understand books and enjoy reading and promoted reading (i.e. learning literacy) as fun, providing pleasure and excitement to the reader. Gregory (2008) showed that the latter model may be culture-specific: she reported that children from diverse cultural backgrounds and whose home language was not English generally viewed reading as a requirement of learning to read and as an investment in their future success as opposed to a pleasurable practice. Gregory (2008) additionally noted that in some cultures book reading is not necessarily encouraged for young children in the early stages of learning to read.

The culture of the classroom and children's preconceptions of the classroom can also influence performance. Tarone and Liu (1995) conducted a longitudinal case study of a six-year-old Chinese boy learning English as a second language and found that the boy's participation and questioning was less than it could have been because he deemed it important to 'speak correctly' in the presence of a teacher and therefore was unwilling to risk forming a question or sentence incorrectly. The study demonstrated that the culture of the classroom can exacerbate or ameliorate childrens' reticence to contribute and that this culture is largely determined by the teacher. The linguistic and cultural resources learners have accumulated over time provide a further source of sociocultural influence on

classroom teaching and learning (Canagarajah, 2000; Lin, 2000; Luk, 2005). Luk and Wong (2010) analyzed four naturally occurring form-focused instructional episodes in a Hong Kong ESL classroom and discovered that the learners made sense of the teacher's pedagogical input by drawing on the body of knowledge they had accumulated over time through repeated participation in socially defined communication. Research outcomes such as this validate Andrews' (1997; 2003) call for enhancing teachers' awareness of the socially constructed nature of learning and for teachers to make their instructional discourse easily accessible to learners (see also Gregory, 2008). Guthrie, Schafer, Wang and Afflerbach (1995) illustrated the benefits of instruction that stimulates both the social and cognitive resources learners bring to the classroom. In an attempt to identify possible links between reading instruction and the amount and breadth of students' reading activities, they conducted secondary analysis of a large national database for students aged 9, 13 and 17 in the United States. Results showed that the amount of reading was associated with levels of social interaction surrounding reading, cognitive strategies for reading, and teacher-directed instruction. A classroom framework that simultaneously supported cognitive strategy learning and social discourse around reading (i.e. forming a social milieu for story-sharing among children) seemed to significantly enhance the amount and breadth of students' reading. Similarly, based on analysis of the portfolios of classroom learners of French, Donato and McCormick (1994) concluded that learning strategies are neither directly taught nor a function of cognitive style, learner personality or hemispheric preferences, but emerge as a by-product of the mediational

processes at work in the language classroom. They maintained that classroom language instruction is a culturally situated activity which influences individuals' strategic orientations to classroom learning. Ho (2006) examined the wider schooling context and found a strong relationship between an institutional view of language as a formal system to be transmitted to learners and the limited practices of interaction found in the classroom. She described the underpinnings of mediational and instructional processes in the classroom as “perceptual sociocultural elements” (p.11) emanating from the perceptions of administrators, teachers and students about language and language learning.

Ho (2006) noted that classroom interaction types were limited. Some interaction types may be more effective than others in facilitating learning objectives. However, it is possible that being a member of a particular classroom or classroom culture, particularly when classroom interaction types are limited, may induce familiarity with and preference for certain instructional practices and interactional patterns even if these are sub-optimal. Learners may also develop particular types of competence and knowledge. The familiarity and comfort derived from predictable classroom practices may actually promote learning in a new language when the same teaching practices are adopted (Scribner & Cole, 1981; Hall, 2002).

Many studies have provided useful insights into the socially situated nature of classroom language teaching and learning but it is important to further consider

the impact of the contextual differences in L2 and FL learning. In learning a L2 in the target language context, the target language culture usually dominates the classroom and experience outside the home. In the FL context where daily target language contact is rare, however, the sociocultural expectations, local indigenous cultural models of learning and socially constructed beliefs may have a more profound influence on learners' learning (Peng & Woodrow, 2010). In the FL classroom, therefore, L1 literacy practices may be the dominant force shaping teacher-learner interaction. For an adequate understanding of the impact of any instructional practice, it is important to understand the context of language learning as it is the context that determines not only what to teach but also how to teach it.

2.2.3 Official policies and pedagogy

In response to the increasing salience of literacy as a focus of government policy intervention, there has been increased research in recent years on the sociocultural mediation of official policies in the classroom. This line of enquiry generally holds to the view that formal expectations about early years practice are set by policy-makers, who not only determine resource allocation but also have the right to select curriculum content they consider appropriate to action (Goouch, 2008; Hall, 2002). Barton, Hamilton and Ivanic (2000) wrote that "literacy practices are patterned by social institutions and power relations" (p.13). Certainly, policy makers are powerful influences on what teachers do and consequently on

the development of new abilities of students attending the settings they influence (Ceci, 1990; Stephen, 2010).

In their authoritative review of pedagogy and young children's learning, Bowman, Donovan and Burns (2000) found that policies and institutional expectations exerted a powerful influence on teachers' perspectives and practice. This influence is often implicit and shapes practitioners' instructional practice in ways that compete with or override ideas encountered in initial or subsequent professional education (see also Rosaen & Schram 1998). Stephen, Ellis and Martlew (2009) studied the policy-maker-driven change in pedagogy in two local authority areas where local policy-makers had chosen to amend their pedagogical expectations during a time of curriculum change, exploring the impact of a shift to active learning in six year 1 classrooms in Scotland. Their results showed that the change in pedagogical expectations altered the children's learning behavior and outcomes and argues that policy pay greater attention to the located and culturally variable dimensions of literacy in social practice as well as the concept of literacy as having personal and social meaning as opposed to economic.

Despite the new trend in literacy studies, governments do not appear to have adopted a sociocultural perspective in their literacy policies. In Britain, for example, it is hard to detect much impact from new literacy studies on the country's national literacy strategy (Barton, 2001). Similarly, in the United States there are concerns about the limited effect contemporary research on literacy has on government

policy (Taylor, 1998). In South Africa, literacy teaching is subject to a proliferating list of ‘unit standards’ intending to be content-free and context-free descriptions of knowledge-skills that can be tested. This is seen by detractors as evidence of reducing learning content into testing materials. A similar pattern is observable in Australia where teachers are required to teach and test more diligently more quantifiable, generalisable and impersonal teaching content (Freebody, 2001). The ultimate aim of government policy is to raise standards and to render the education system more accountable (Bianco, 2001). However, because of the way policy is formed, it can make harder the kinds of educational interventions that teachers and other educational researchers identify as being justified either by the needs of students or by socially transformative goals and ideologies (Hall, 2002).

Because of the Taiwanese MoE’s attempt to incorporate a literacy approach typically associated with English L1 acquisition into the EFL national curriculum, it is even more crucial that the sociocultural dimensions of language learning are taken into account when formulating curriculum objectives. To better understand the efficacy of phonics instruction on young Taiwanese EFL learners, it is also important for the current study to consider the mediating influence of policy expectations on teachers’ instructional practice and learners’ learning outcomes.

2.2.4 Teaching Materials

In the foregoing discussion the focus has been on human mediation of children's language learning but it is important to acknowledge that as the aims of policy makers will be reflected in teaching materials, what teachers and learners do will also be influenced by the materials they use. Thus it is important to understand the ideological assumptions embedded in the design of teaching materials and also to know how they are used in the classroom.

Through fine-grained analysis, Churchill, Nishino, Okada and Atkinson (2010), illustrated how a tutor and a learner interacted with a grammar worksheet to create perceptible links across cognition, social action, and the material world in studying English grammar. They identified various sociocultural connections embedded in the worksheet, including the systematic relationship it had with the English textbook the learner used in her junior high school, and its relevance to the high school entrance exams for which the worksheet was designed to prepare the student and the Japanese MoE guidelines mandating which linguistic forms are to be taught at which educational levels. Teaching materials, then, are essentially tools of sociocultural mediation. The design of textbooks reflects the values of the society in general and the aims of the policy maker, therefore in examining the impact of textbooks on the efficacy of phonics instruction to young Taiwanese EFL learners, it is important to take into account the culturally embedded nature of the textbooks.

2.2.5 FL and sociocultural theory

It is evident from the discussion that understanding children's literacy development first requires a conceptualization of the various contexts in which children acquire literacy. These contexts involve many interrelated people, institutions, and places and they vary greatly from culture to culture. In an FL environment, conceptualizing literacy development becomes even more complicated, as culturally embedded or affected educational policies and expectations of and from learners and teachers, learners', teachers', and parents' attitudes towards the learning of the target language, and the cognitive processes involved in the acquisition of a new language all need to be incorporated into a framework for explaining children's FL literacy development. As McBride-Chang (2004) stated, although much has been written about how children learn to read English, the meaning of this achievement cannot be understood without the cultural context. Unfortunately, although it is now widely acknowledged that early literacy acquisition is a dynamic process involving the interaction and integration of cognitive processes and social conception processes, little is known about just how exactly the social and cognitive features interact in that process (i.e. how a specific social context interacts with a particular teaching approach and the cognitive consequences of such interaction). More may be learned through studies of language learning that utilize both the sociocultural and the cognitive research knowledge bases. The present research aims to investigate the combined influences of instructional, social and cognitive factors on learners'

literacy acquisition in a foreign language. It is hoped that the interlinked perspectives on literacy will lead to a deeper understanding of literacy development than would otherwise be possible.

2.3 Cognition and EL1 literacy acquisition

Much of the sociocultural-oriented research is able to provide explanations for observed cognitive behavior in learning but does not explicitly address the cognitive processes involved in the acquisition of the 'technical aspects' of literacy such as grammar, punctuation, spelling, and phonics. Cognitively oriented research attempts to explain the processes that occur in the mind during learning and acquisition.

The early stages of literacy learning are seen as straightforward and self-evident, consisting of only two basic processes: learning how to decipher print and understanding what the print means (Hoover & Gough, 1990). In the early stages of first language literacy acquisition, the processes predominantly involve mapping between the spoken and the printed word (Nag, 2007; Snowling & Hulme, 2005). Perhaps the most influential work related to the stages or phases of children's word reading development (sound-meaning mapping at word level) is Ehri's (1995) model. Ehri proposed four phases in learning to read words in English: a pre-alphabetic phase in which words are learned by sight as whole units, leading to a partial alphabetic phase where knowledge of individual letter

sounds is combined with that of sight words to attempt a pronunciation, leading to a full alphabetic phase, leading to a consolidated alphabetic phase in which learners achieve automatic word recognition. Sight words are important in the first two phases while alphabetical processing skill is pivotal to the progression to the final phase, providing support for a focus on either whole word teaching or on phonics teaching, should that be the wont of the teacher/individual. That alphabetic knowledge becomes more important as the stages advance is perhaps a stronger endorsement for phonics teaching (i.e. teaching knowledge of grapheme-phoneme connections). However, teaching grapheme-phoneme connections can be problematic as the mapping between spoken and printed words is not always straightforward. This is especially true of English and as a consequence the teaching of phonics has triggered many pedagogical debates across English speaking countries.

2.3.1 The Great Debate: phonics versus whole language

Over the past century, there have been fundamental disagreements relating to both the theoretical and practical aspects of learning to read in English (Thompson, 1999). At the center of the disagreements lies what Chall (1983, 1996) termed ‘the great debate’: a debate between those researchers and educators who place great emphasis on approaches that focus on breaking the code (bottom-up) and those who endorse instruction that relies on a meaning-emphasis (top-down) approach. In recent years, this dichotomy has

seen its incarnation in the phonics and the whole language programs, respectively (Adams, 1990; Allington, 2002; Chall, 1996; Goodman, 1998; Kucer, 2001; Stanovich & Stanovich, 1995; Thompson & Nicholson, 1999).

Defining the term ‘whole language’ can be challenging, particularly in terms of instructional practices. This is partly because those most strongly identified with whole language have often resisted attempting to define it precisely, arguing that an approach that is whole cannot be easily reduced to parts (e.g. Goodman, 1989; Smith, 1994). Bergeron (1990) and Moorman, Blanton and McLaughlin (1994) attempted to clarify the nature of the whole language approach via an analysis and synthesis of journal articles on whole language. Both studies found, however, that there was little agreement among the contributors to the whole language literature about the basic definition of the whole language approach, nor about the instructional techniques and strategies used. Some instructional elements and practices did show consistency. The majority of articles specified literature as important in whole language and de-emphasized the teaching of letter-level processes involved in decoding of text (i.e. there was no dedicated instruction in these skills) in favor of higher-order meaning construction, making meaning construction the primary goal in learning to read from the very start. According to the whole language perspective, context cues and the schemata they trigger are crucial in comprehension; hence, written word recognition is portrayed as involving primarily analyses of semantic cues and syntactic cues and to a lesser extent, graphemic-phonemic cues (Weaver, 1994). Whole language oriented

scholars cite as evidence for this the fact that when a reader misreads a word, the misreading typically can be explained as semantically related to the actual word, syntactically sensible, or graphophonemically related to the target word (Goodman, 1993).

In general, whole language emphasizes the importance of literature-based reading, purposeful meaning construction, the naturalness of reading acquisition, and child-centeredness in reading instruction (Bergeron, 1990; Edelsky, 1993; Goodman, 1989, 1996, 1998; Weaver, 1998). Instructional practice involves the provision of meaningful context within which letter strings are transformed by the learner into visual wholes that give direct access to the lexical meaning of a word. Success in word reading is based on frequent encounters with print (Perfetti, 1991). Whole language advocates criticize an emphasis on the direct teaching of phonics, claiming that it turns reading from a process of making sense into one of sounding out words and that this interferes with the process of meaning construction by removing the language context and replacing meaningful language with the learning of an abstract system (Goodman, 1993). In general, whole language advocates hold a strong conviction that children can instead discover sound-letter regularities through authentic comprehensible reading and writing (Routman, 1996; Weaver, 1998) and that phonics should only be learned as a natural by-product of immersion in meaningful context rather than as a focal point of instruction. Beginning reading is treated more like natural learning, which is aimed at making use of the learner's world views, experiences, and insights to

facilitate active construction of knowledge and rules (Spiro, 1980). Moreover, Goodman, Bird and Goodman (1991) claim that the ultimate aim of the whole language approach is to instill a love of literature and to promote critical thinking, collaboration, authenticity and personalized learning.

As is the case for whole language, phonics is rarely clearly defined in literature addressing the topic. Additionally, in many research studies of phonics instruction, phonics has been used in a ‘quasi-intuitive’ manner. This has resulted in sometimes mindless teaching techniques and in part because of this ‘phonics’ remains a controversial term (Brown, 1998). So what is phonics? Cordts rather vaguely called it the ‘application of phonetics to the art of reading’ (1965: 69). Adams (1990) posed the question several times in her seminal work on the effects of phonics teaching, but never fully answered it. Goodman noted that phonics is based on relationships “between the patterns and systems of oral and written language” (1993: 6), not between individual letters and sounds, and thereby chose to emphasize the complex relationship between phonology and orthography that is the subject of ‘phonics instruction.’ The most widely-used and seemingly well accepted definition, however, is that phonics is a system that maps sounds (phonemes) to letters (graphemes/symbols) (Hinson & Smith, 1993).

The central principle of the phonics approach is the direct teaching of sound-letter relationships. Teaching is focused on the regularly spelled graphic word and how to break it into parts which can be immediately related to speech (Adams, 1990).

Advocates of phonics instruction argue that early alphabetic reading instruction must include some explicit training in letter-sound correspondences and patterns. Such ‘bottom-up’ theorists believe that to enable the powerful self-teaching mechanism inherent in an alphabetic language (Share, 1995), children must learn the general principle that spellings correspond to sounds and that letter-sound cues are more important in recognizing words than either semantic or syntactic cues. In general, reading acquisition is seen as a linguistic information processing sequence (Stanovich, 1991; Sweet, 1997).

Despite the at times polarized debate, both the whole language and phonics approaches to teaching literacy share the same ultimate goal of enabling students to generate meaning from text independently and, contrary to some claims, rarely do proponents of phonics recommend teaching only phonics (Chall, 1989) nor do advocates of whole language deny the importance of letter-sound relationships. The focal point of contention is the means by which these relationships are learned: whole language advocates believe that the sound-letter system can be acquired through immersing children in print-rich environments and providing them with oppoturnities to write with invented spelling (Weaver, 1994) whereas phonics advocates underscore the importance of systematic and explicit skills instruction that focuses on facilitating letter perception, phonemic awareness, and word decoding skills (Adams, 1990; Beck & Juel, 1995; Chall, 1996; Stanovich, 1991; Sweet, 1997).

Many educators favor an integrated approach that supports both direct teaching of phonics as a ‘system’ and opportunities for implicit learning of sound-letter relationships through ‘meaningful’ whole language experiences (Pressley, 1998). The efficacy of the combined use of bottom-up and top-down approaches is also supported by research evidence (Hall, 2001).

Nonetheless, in an attempt to resolve the debate, some researchers have sought to compare students’ literacy performance under phonics instruction with that of students under whole language instruction. Snow, Burns & Griffin (1998) noted that it is difficult and inaccurate to designate classrooms as specifically ‘phonics’ or ‘whole language’ classrooms. Hence, intervention studies have come to the fore (e.g. Bruck, Treiman, Caravolas, Genesee & Cassar, 1998; Stuart, 1999). The results of the majority of these studies seem to indicate that phonics-trained learners are better at word reading and are more accurate spellers. However, advocates of whole language object to such relative effectiveness studies because of the belief that over-reliance on test score data promotes test-driven curricula (Edelsky, 1990). They also argue that many of the effectiveness tests do not include performance on tests of reading comprehension, which they consider the main goal of reading instruction (Krashen, 2002). Moreover, whole language seems to produce better outcomes with respect to some measures of reading readiness. Freppon (1991), for example, reported that students in whole-language classrooms understood much better than skills-based students that reading is about getting the meaning rather than simply reading the words (see also Dahl &

Freppon, 1995). When students under phonics instruction sound out a word incorrectly when reading, they are less likely to notice that the word does not make sense and more likely to accept the misreading than whole language students. In general, whole language students demonstrate better understanding about the nature of reading and writing (Graham & Harris, 1994), more autonomous use of literature, and better attitudes toward reading (Foorman, Francis, Schatschneider & Mehta, 1998; Morrow, 1992; Rosenhouse, Feitelson, Kita & Goldstein, 1997). The results of these studies appear to reflect the difference between a very targeted approach in which an identifiable set of sound-letter correspondences will be taught within an identified time-frame (phonics) and an approach that has no such short-term targets (whole language): testing knowledge acquisition after a (mostly short-term) intervention study would appear to suit the former and not the latter. Additionally, the relative absence of specific learning targets (and therefore stress in achieving those learning targets) in whole language may encourage a better attitude to literacy learning. McBride-Chang (2004) and Stanovich (1986) noted that learners who have a greater interest in reading may persist with it for longer and may therefore perform better in the long run, yet it is difficult to judge the impact of the teaching approach on this interest and therefore on ultimate literacy achievement.

Adams (1990) referred to the debate between proponents of the two approaches as the ‘reading wars’, giving some indication of the vigour with which some contributors argued their opinion. In recent years, advances in cognitive science

have led to the development of cognitive processing models of word recognition. These models have been forwarded as scientific evidence that phonological processing skills are related to reading and that such skills are best promoted through systematic teaching of phonics (e.g. Adams, 2002; Ehri, Nunes, Willows, Schuster, Yaghoub-Zadeh, & Shanahan, 2001; Seidenberg, 2005; Stanovich, 1991). The research is open to criticism (see Wyse, 2003), however, and researchers and other stakeholders continue the debate. While the nature of the relationships among phonological subprocesses and their relative contribution to reading also continues to be debated (Lefrance & Gottardo, 2005), phonics instruction has become widely adopted in English L1 instruction and is promoted by advocates as the key to rapid acquisition of reading skills.

2.3.2. Phonics and phonological processing

Phonological awareness is the ability to perceive, reflect on, and manipulate the sounds of spoken words (Goswami & Bryant, 1990) and encompasses awareness of phonemes as well as rimes and syllables. Since the 1970s, this skill has been seen as key in understanding the complex process by which children learn the relationship between spoken and written words (Castles & Coltheart, 2004). Its 'discovery' has been described as "one of the most notable scientific success stories of the last few decades" (Stanovich, 1991:78) and as "the single most powerful advance in the science and pedagogy of reading this century" (Adams, 1990:91). However, considerable controversy has surrounded the

question of the relative importance of small versus large phonological units. While some theorists have stressed the importance of the phoneme (small units) (e.g. Chew, 1997), others have argued strongly for a predictive role for awareness of rime (the phonological unit corresponding to the vowel and any subsequent phonemes in the syllable) (e.g. Goswami, 1993; Bradley & Bryant, 1983). Phonics advocates claim that one of the greatest benefits of phonics instruction is that it facilitates phonological awareness and focus their belief basis on small unit theories.

Small unit theories propose that acquiring an alphabetic orthography primarily requires gaining access to a phonemic level of speech representation, hence, learners of English need to be aware of the phonemic segments in spoken words before going on to learn about their correspondence with graphemes (Gough & Hillinger, 1980). However, there appears to be a theory of reading acquisition in which phonemic awareness is a pre-existing skill that is then used to assist the formation of links with graphemes (Stuart, 2005), and one in which explicit awareness of phonemes may not exist independently of graphemic knowledge (Castle & Holmes, 1996; Read, Zhang, Nie & Ding, 1986), developing primarily as a consequence of learning an alphabetic script (Mann & Wimmer, 2002).

Research does not appear to clarify the role of phonemic awareness, for although there is support for the hypothesis that phonemic awareness enables literacy acquisition, there is also considerable support for the proposal that the causality

flows in the reverse direction (Perfetti, Beck, Bell & Hughes, 1987). In an attempt to determine whether there exists a causal link between different units of phonological awareness (phonemes and rimes) and literacy acquisition, Castle and Coltheart (2004) scrutinized the huge and varied body of research on phonological awareness and literacy acquisition. They found flaws in the tasks used in all the studies analyzed and provide a convincing argument that there is no unequivocal evidence for a causal link from competence in phonological awareness to success in reading and spelling acquisition. However, in recent years, multiple studies have shown that phonological awareness training can assist reading development in normally-developing readers and in intervention studies for poor readers (e.g. Iversen & Tunmer, 1993). Moreover, Goswami & Bryant (1990) reported that children who are not taught about the small units (phonemes) tend to be insensitive to them. The consensus seems to be that whereas awareness of rhyme and alliteration precedes and influences reading development, awareness of phonemes only develops when learning to read in an alphabetic language (Scholes, 1998).

In addition to phonological awareness, a considerable amount of evidence converges to indicate that progress in learning to read can only occur if the learner possesses adequate phonological recoding ability. Using neuroimaging, NICHD researchers identified a unique signature in the brain scans of people with reading disability (Grossen, 1997) that appears related to an inability to work with phonemes. Grossen concluded that phonological processing is the primary ability

area in which children with reading disabilities differ from other children and that phonological processing is therefore the critical procedure for enabling progress in learning to read. It is proposed that if a printed word is unfamiliar, the effort to read the word activates generation procedures in the mind that usually involve phonological decoding in an attempt to link the print to an entry in the mental lexicon (Thompson, 1999; Trunmer & Chapman, 1999.). Phonological decoding therefore enables the powerful self-teaching mechanism inherent in an alphabetic orthography (Gough & Hillinger, 1980; Jorm & Share, 1983; Mcdowell & Lorch, 2008; Share, 1995).

With phonemic awareness and phonological decoding ability, the first and / or subsequent encounters of a written word can be linked to the existing stored spoken form and meaning and this can lead to an orthographic representation of the word being established in memory (Share, 1995). Proponents claim that phonics teaching provides the knowledge that allows phonological decoding and hence learners are more able to learn new printed forms independently. Connelly, Johnston and Thompson (1999) found that children taught to use phonics were better able to perform phonological recoding procedures, and that only children who had begun to acquire phonological recoding skills were able to use context to identify unfamiliar words. It may therefore be expected that children taught associations between sounds and letters from the beginning would have some initial advantage over children without such teaching in developing self-teaching mechanisms (Thompson, 1999). Whether EFL learners, who do not have the

established oral vocabulary of L1 learners, would benefit in the same way is open to question.

2.3.3 Efficacy of the phonics approach

Chall (1983, 1996) reviewed the research on beginning reading instruction conducted since 1910 and concluded that a code-emphasis reading program was more effective than a meaning-emphasis program for most children. Adams' (1990) synthesis of studies from cognitive science, educational and psychological disciplines also provided strong theoretical support for phonics instruction. In addition, a large-scale evidence-based evaluation of early reading instruction commissioned by the US Congress clearly demonstrated the superiority of phonics instruction over other approaches (Ehri, Nunes, Williows, Schuster, Yaghoub-Zadeh & Shanahan, 2001). The validity of conclusions drawn in these studies is questioned by detractors (e.g. Krashen, 2002; Wyse, 2000) on the basis of experimental design flaws and yet the large and convergent body of evidence from controlled intervention studies (e.g. Ball & Blachman, 1991; Lundberg, 1994; Stuart, 1999) continues to suggest that phonics instruction improves the reading and spelling performance of learners across a wide range of ages and abilities.

The post-intervention testing that follows phonics instruction is typically based on measures of letter-sound knowledge and word knowledge in isolation, and as such does not cover a wide range of reading behaviour and does not assess

reading comprehension, which is of central importance in an assessment of reading ability (Krashen, 2002; Leslie & Allen, 1999). Krashen (2002) reexamined studies comparing the efficacy of different approaches that did include measures of reading comprehension and found that children in phonics programs did not perform as well on measures of reading comprehension as those in meaning-emphasis programs. There are also general concerns amongst scholars and educators about an over-emphasis on phonics instruction. Of particular concern is that understanding may be absent despite successful decoding of text and therefore apparent success in reading, and also that the cognitive demand of decoding may interfere with meaning construction (Wyse, 2000). Additionally, because phonics requires significant cognitive capacity to be focused on decoding, many at-risk children may find reading difficult and frustrating and as a consequence be less likely to engage in reading independently (Krashen, 2002).

Despite the widespread adoption of phonics in EL1 settings and, moreover, in EFL settings (e.g. Taiwan), there is ongoing discussion and some concerns regarding the efficacy of phonics instruction. Perhaps foremost in these concerns is the focus of both instruction and evaluation on decoding as opposed to a focus on the ultimate aim of reading; meaning comprehension. Given the ongoing controversies surrounding the efficacy of phonics instruction for EL1 literacy learning, application of phonics teaching to EFL / L2 learners needs to be exercised with great caution and consideration. An understanding of the English writing system can further illuminate the implications of phonics instruction for EL1

as well as EFL / L2 learners.

2.3.4 The English writing system

English is marked by the phonological complexity of the spoken language and by the spelling inconsistency of the written language (Goswami, 2005), and because of this phonics learners are consistently faced with multiple possibilities and irregularities of letter-sound correspondences. Calfee (1991) noted that letter-sound correspondence is seldom one-to-one and is complicated further by factors such as accent, intersyllable transitions, and intrusions.

Different accents are realized as different phone-grapheme relationships, and may also differ in the number of phonemes used. These differences may have a profound influence on learners' perception of sounds and affect their learning performance. For example, Desberg, Elliott and Marsh (1980) found that at all grade levels, accent accounted for variance in spelling ability (see also Cook, 2004). Additionally, Carney (1994) concluded that the English writing system is better suited to accents in northern England than to those in southern England and RP accents because the phone-grapheme relationships are more consistent. Moreover, the speaker's perception of level of importance of the information (primary or secondary) can cause different changes in the vowel quality in different accents (Lisker 1978, Nearey 1989). Phonemes, then, are inherently abstract and, as Castle (1999) states, cannot be sounded accurately in isolation.

In most studies of phonics instruction the ‘set’ of phonemes that is used by instructors is left unspecified and by extension is treated as an irrelevance. However, the research referred to above indicates that instructor accent is a factor that the providers of phonics instruction programs need to be aware of and plan for. The target accent of state and most private schooling in Taiwan is one associated with the target General American English dialect, but in reality Taiwanese learners experience a gamut of accents, from Taiwanese native speaker to US and Canadian, to British, Australasian, and South African, and all varieties thereof. If, as reported, L1 learner accents affect spelling ability, it is reasonable to assume that EFL learner experience of accent could have a significant effect on understanding of phone-grapheme correspondence.

Modern English is a fusion of several languages (notably Anglo-Saxon, Latin, and French) each with a distinctive phonology, morphology and letter-sound system (Goodman, 1993; Calfee, 1991). It was also codified by academics who wished to preserve historical traces of the language at the expense of phoneme-grapheme correspondence (Goodman, 1993). As a result, the relationship between the pronunciation of the spoken language and the alphabetic script of the written language is complex. A particular phoneme may be associated with a number of different letters in different words (Hanley & Kay, 1992; Thompson, 1999). Simon (1976), for example, offers 36 possible alternative spellings for the word *she* (/sh/ could be spelled as *ti, sh, ci, ssi, si, c, ch, t,* or *s* and /e/ as *e, ea, ee,* or *ie*), while Goodman (1993) points out that even consonants, supposedly more regularly

represented in spelling, do not have a single one to one relationship: /f/ is spelled as *f* in ‘five’, *ff* in ‘off’, *ph* in ‘phonics’, and *gh* in ‘enough’, this final relationship contributing to the famously weird but possible respelling of ‘fish’ as ‘ghoti.’

As a result of the phonic irregularity discussed above, phonics ‘rules’ inevitably have exceptions. Clymer (1966) examined 45 phonic generalizations in four basal series and concluded that many did not work very well. For example, the rule "when two vowels go walking, the first does the talking" (when two vowels appear together, the long sound of the first is heard and the second is silent, as in "tea") worked in only 45% of the cases Clymer examined, and the final *e* rule (first vowel is long, final *e* is silent, as in "take") worked in only 63% of cases. These percentages demonstrate that a learner who learns and relies on a phonics rule / generalization to match phonemes to letters will sometimes be wrong more often than they are right! This is one of the central arguments against over-reliance on phonics. English also shows characteristics, called ‘orthographic regularities’ that bear no relevance to either word sounds or meanings but are concerned with the actual combination of letters in words (Haynes & Carr, 1990). For example, some letter combinations such as *th* are permissible while others such as *ht* are not, and some consonants do not occur alone at the end of words (e.g. *j, h*, *v and k*). Knowledge of orthographic regularities is especially relevant to spelling as it allows the learner to dismiss otherwise phonologically permissible spellings (e.g. *pik* can be dismissed in favour of *pick*).

English writing cannot be converted into its spoken form letter-by-letter and nor can the reverse be successfully achieved. There are, however, some rules that are of great value in determining the spelling choice to be made (when the spoken form is known) or that aid pronunciation and add to understanding (when the written form is known). For example, word initial digraph *th* corresponds to the voiced fricative phoneme /ð/ in function words such as 'this' and 'that' and the voiceless /θ/ in content words such as 'Thursday' and 'think' (Cook, 2004). Also, the consonant doubling rules can be used to distinguish between a proper name such as 'Kidd' and an ordinary noun 'kid' and as an indicator of whether the preceding vowel is 'short' (checked) or 'long' (free) such as in 'dinner' and 'diner' (Cook, 2004). Rules such as these help clarify particular sound-letter correspondences, yet the implication of such patterning is that the rules are based on more than phonology and hence to utilize these rules the user has to know that 'this' is a function word before knowing which corresponding sound of *th* to use or that 'Kidd' is a proper name before being able to spell it correctly. English orthography therefore carries extra information in addition to phoneme correspondence. Because of this feature of English orthography, Venezky (1999) concluded that 'English orthography facilitates word recognition for the initiated speaker of the language, rather than being a phonetic alphabet for the non-speaker (cited in Cook, 2004: 62). This suggests that EFL learners under phonics instruction, who generally start literacy learning in English with limited oral proficency and knowledge of the language, may benefit to a lesser degree than EL1 learners.

It is evident that the complexity of English orthography means many rules are unteachable (Smith, 1994). Because of this, many scholars and educators are against over teaching phonics. The report of the US commission on reading (Anderson, Hiebert, Scott and Wilkinson, 1985) concluded that only the most important and regular sound-letter correspondences should be taught directly and that once the basic relationships have been taught, the best way to get children to refine and extend their knowledge of letter-sound relationships is through repeated opportunities to read.

2.3.5 How should phonics be taught?

The complexity of English orthography has triggered debates on how phonics should be taught (Johnston & Watson, 2004; Trunmer & Chapman, 1999). It can be taught in various ways, but two approaches are commonly described: *synthetic phonics*, which utilizes carefully sequenced letter-sound correspondences and 'blending' routines (grapheme-phoneme synthesis), and *analytic phonics*, which focuses on word analysis (e.g. onset (e.g. *b* of 'bat') and rime (e.g. *at* of 'bat') analysis). There is controversy over which of these approaches is better. Goswami (2005) contends that English is particularly inconsistent with respect to the small reading units emphasized by synthetic phonics, hence relying solely on grapheme-phoneme correspondences may lead to inefficient recoding of English (see also Treiman, Mullenx, Bijeljac-Babic & Richmond-Welty, 1995; Ziegler & Goswami, 2005). She then proposes that children should initially be taught to read

by making analogies between known sight words and unfamiliar words, focusing on common rimes and onsets as these are the most fine-grained level of segmental awareness available to most children (see also Goswami & Bryant, 1990; Bryant & Bradley, 1985; Williams, 1984). Goswami states that children's awareness of onset and rime can provide them with a strategy for linking spoken rime segments with printed rime units. These links can then be used to make inferences or analogies about new words. At a more advanced stage of reading acquisition, the rime units are segmented, leading to a more fine-grained letter-sound reading process (Goswami & Bryant, 1990). This argument is supported by studies (e.g. Brown & Deavers, 1999) that show that learning to read English appears to push children into developing both 'small unit' and 'large unit' recoding strategies in parallel. Goswami (1993), for example, in a study of analytical transfer, found that children read pseudo-words that had several real words as neighbors (e.g. 'loffee;' 'coffee,' 'toffee') with higher accuracy than those with few orthographic neighbors (e.g. 'loffi'; see also Goswami, Gombert & DeBarrera, 1998). Similarly, Bruck and Treiman (1992) showed that training children to use rime analogy (e.g. 'bat,' 'fat') is more efficient than training them to use other analogies (e.g. 'bat,' 'bag').

Proponents of synthetic phonics acknowledge the difficulty young children experience in phonological processing at the level of the phoneme but argue that this difficulty may be magnified if early instruction does not explicitly teach phonemic assembly (Aro & Wimmer, 2003; Share, 1995; Share & Stanovich,

1995) and that English beginners are just as capable of assembling and segmenting phonemes as children of other (more regular) alphabetic languages (Chew, 1997). Lovett, Borden, DeLuca, Lacerenza, Benson, and Bracktone (1994) and Torgesen, Wagner and Rashotte (1994) both concluded that instruction in specific sound-spelling relationships was more effective than a strategy for using analogous word parts. However, Stahl and Murray (1994) reviewed the research on phonics instruction and concluded that there are several types of good phonics instruction and that there is in fact no research base to support the superiority of any one particular type. Also, the US National Reading Panel (2000) compared the effect of unit size in 'large unit' versus 'small unit' phonics teaching using a meta-analysis of relevant studies and concluded that the impact of early 'large unit' teaching versus early 'small unit' teaching was statistically indistinguishable.

Given the available evidence, it seems that both synthetic and analytic phonics, as well as the whole-word approach, have a role to play in helping children learn to read a relatively inconsistent orthography like English (Goswami, 2005). It is necessary to recognize that with its orthographic features, English can be exploited either at the phoneme level, at the rime level, or at the whole word level, and that no one approach can function well on its own. However, under the influence of the longitudinal Clackmannanshire research comparing the effect of synthetic phonics and analytic phonics (Johnston & Watson, 2005), and the Rose report (2004), recommending the use of synthetic phonics, the UK government in 2005 explicitly instructed schools to use a synthetic phonics

approach that teaches the 44 sounds of British English with only gradual use of books in the teaching curriculum. Similar preferences have been observed in other English speaking countries. For example, the US 'No Child Left Behind' Act of 2001 requires schools to adopt 'scientifically based' approaches to teaching reading and mandated that all children must have systematic, intensive phonics instruction , which is interpreted as referring to synthetic phonics (Schemo, 2002). Similarly, both the New Zealand Ministry of Education's Literacy Experts Group and the Australian National Inquiry into the Teaching of Literacy acknowledge the centrality to early reading instruction of systematic instruction in synthetic phonics (Bowey, 2006). Predictably, the position and decisions of these governments have sparked concern and criticism. In the UK, early learning specialists have argued that young children will be bored and uninspired (Wyse, 2003) by synthetic phonics teaching. Most criticism however has referred to the complexity of learning to read and the impossibility of defining a single 'most effective' approach based simply on experimental studies. It is argued that for better understanding of the efficacy of any literacy approach, a methodology that synthesises experimental research and qualitative research should be adopted.

The enduring debates over early literacy approaches are central to educational research. However, very little is known about the applicability and the efficacy of the literacy approaches for EFL learning and the extent to which the debates are relevant to EFL literacy development. Cognitive models of literacy acquisition may provide some insights to the efficacy and relevance of the teaching approaches to EFL learning.

2.3.6 Understanding reading and spelling in English

Understanding how reading and spelling work in English may help in understanding the efficacy and limitations of phonics. That children are able to discriminate between homophones (e.g. *see* and *sea*) indicates that orthographic representations stored in the internal lexicon play a part in both reading and spelling (Smith, 1984; Massaro, 1984). In dual route theories (Coltheart, Curtis, Atkins & Haller, 1993), for example, orthographic processes are relied upon for recognition of familiar and high frequency words as these words are individually coded within the lexicon, whilst phonological processes are considered important for the recognition of low frequency and unfamiliar words because these words are generally not represented in the lexicon and must undergo letter-to-sound conversion. Thus, the ability to recognize a word requires that a reader has mastery of both the phonological system and the writing system of a given language as well as how these two systems interact (Gholamain & Geva, 1999). However, it is important to note that the two processes do not often assume equal dominance. The amount of phonological or visual strategy which occurs during the process of word recognition is determined largely by the frequency of exposure.

Readers' degree of familiarity with print plays a role in determining strategy use. With familiar or high frequency words, the strength of the connections between the orthographic representation and their lexical entries allows direct visual

access to meaning without phonological recoding. In contrast, low frequency or unfamiliar words in all languages appear to undergo phonological recoding to a certain extent (Besner & Smith, 1992; Hirose 1992). This frequency effect, which allows direct visual access, is the result of print experience (Martin, Pratt & Fraser, 2000). Naturally, the more frequently a reader connects a printed word with its meaning, the stronger the direct links between the orthographic representation of the word and its meaning will become and the more automatized the process will be. It is generally acknowledged that reading shifts from a greater reliance on phonological skills, when very few written words are known, to a greater reliance on orthographic skills, as the written vocabulary expands (Martin *et al*., 2000). This relationship between frequency of exposure and automatic print word recognition has generated some of the issues involved in debates of literacy pedagogy, particularly on reading materials for beginning learners. In the US for example the most popular basal texts published between 1910 and 1985 adopted a high-frequency-word approach (Graves, Juel & Graves, 2001). Because of the tightly controlled vocabulary, the language appeared to be stilted and unnatural and consequently was criticized by advocates of literature-based and whole-language approaches who favoured ‘authentic’ realistic natural sounding language (Graves *et al*., 2001). Current basal texts include more varied vocabulary. These texts are also open to criticism, however, as learners may not encounter the same words frequently enough to enable automatic recognition.

The dual-route theory can also be applied to spelling: an orthographic or ‘lexical’ route accesses word-specific memory and retrieves complete spellings, whereas a phonological or ‘assembled’ route maps sounds and letters to produce spellings for unfamiliar words (Barry, 1994). It has to be pointed out that though the dual-route model is used to explain both the reading and spelling processes, there are intrinsic differences between the two processes. In reading, the development of pattern recognition mechanisms related to visual features of words is crucial, whereas spelling depends on the permanent storage of information regarding component letters and their sequence (Henderson & Chard, 1980; Treiman & Bourassa, 2000). A partial analysis of visual orthographic structure is often sufficient for word recognition, whereas for spelling the full letter-by-letter sequence must be produced. Hence, in order to spell a word correctly, higher demands are made upon orthographic representations than in reading. English may put a particularly high demand on orthographic memory in spelling as there are generally more possible spellings for a particular word than possible readings. Stone, Vanhoy and Van Orden (1995) estimated that 69% of low-frequency English one-syllable words are letter-to-phoneme consistent whereas 72% are phoneme-to-letter inconsistent. This is not to say, however, that sound-letter knowledge plays a lesser role in spelling than in reading. In fact, whereas the extent to which phonological recoding is used by a reader to achieve identification of familiar print words remains an issue of debate, there is abundant evidence suggesting that phonological processing is the crucial factor in spelling (Brown & Ellis, 1994; Kreiner, 1992; Wade-Wolly & Siegel, 1997). It is also clear that the

ability to segment, blend, and manipulate the phonemic structure of words is a necessary precursor to reading acquisition, but not the only requirement (Castle, 1999).

Another issue with the dual-route theory is that although it has been utilized in a number of reading / spelling models (e.g. Ellis, 1984; Kreiner, 1992) and is supported by both behavioural and neuropsychological evidence (e.g. Barry & Seymour, 1988; Kreiner & Gough, 1990; Perry & Zieger, 2004), whether orthographic and phonological processing can be operated separately or whether they are so intricately linked that the operation of one activates the other remains unresolved (Hagiliassis, Pratt & Johnston, 2006). A modern dual-route theory, the connectionist model of reading and spelling, proposes that grapheme to phoneme conversion goes on in parallel with lexical look up, with the two sources of information competing or converging to various degrees (Seidenberg, 2005). The fact that spelling errors among good and poor spellers are phonologically plausible is given as evidence that phonological processing contributes also to the spelling of familiar words (Treiman, 1994).

2.3.7 What does it take to read and spell in English?

The models of reading and spelling reveal what assumptions are made of prerequisite knowledge and abilities. First, since models focus largely on the interface of spoken sound and print, they must assume that readers / spellers know the language sounds. A learner should also be able to reflect on and

manipulate the phonological segments of speech (phonological awareness) (Wagner & Torgesen, 1987), store phonological information in working memory and retrieve that information, and access and retrieve verbal labels for visually presented stimuli (Wolf & Bowers, 2000). In addition, he should be able to form, store, and access knowledge about permissible letter patterns (grapheme knowledge) as well as having an awareness of the general attributes of the writing system (Vellutino, Scanlon, & Tanzman, 1994).

To date, research seems to suggest that whereas phonics instruction facilitates the phonological skills, the application of visual strategies contributes to the acquisition of orthographic knowledge (Gholamain & Geva, 1999), though how exactly orthographic knowledge is acquired through visual strategies, i.e. whether by rote, analogy, or rule, awaits specification. It is generally accepted that the dominant use of either phonological or orthographic strategies may result in marked individual divergences in reading / spelling behaviour. Baron, Treiman, Wilf and Kellerman (1980), for example, classify people into ‘Phoenicians,’ who are good at spelling by letter-sound rules, and ‘Chinese,’ who are not. Connelly, Rhona, Johnston and Thompson (1999) concluded that strategy use is influenced by the type of instruction received and that children under phonics instruction are more likely to use phonological skills to read and spell.

Because studies of reading and spelling processes have focused largely on the interface of spoken sound and print, the role of visual perception and semantic

knowledge has received relatively little attention. Furthermore, the study of spelling and reading processes has been dominated by studies of L1 learners of English, and therefore the learner- and language-specificity of the associated processes (i.e. whether L2 and EFL learners adopt the same processing strategies and whether the same processes apply to other languages) remain largely uninvestigated. It is also important to note, once again, that cognitive processes in word-recognition are only one aspect of literacy acquisition. After synthesizing hundreds of research articles in the US government-sponsored report *Preventing Reading Difficulties in Young Children*, Snow, Burns and Griffin (1998) noted that adequate progress in learning to read in English encompasses five areas for development; decoding, fluency, background knowledge, comprehension monitoring, and motivation. To make more informed pedagogical decisions, the intricate links between language, culture and context need also to be considered.

2.4 Understanding literacy in a foreign language

2.4.1. Similarities and differences between L1 literacy acquisition and L2 and FL learning

Before any discussion of literacy development in a foreign language, the similarities and differences between L1 literacy acquisition and L2 and FL learning

need to be considered[2]. Clearly, all humans have the 'language instinct' (Pinker, 1994). It is also argued that all humans possess a "universal" or "central processing" framework for reading and spelling that provides the underlying cognitive and linguistic component skills that are crucial for these tasks, specifically phonemic awareness and visual processing ability. These skills are also believed to influence the development of literacy in L2 and FL contexts. It therefore follows that all learners of all languages, whether L1, L2 or FL, utilize a phonological recoding strategy, a visual-orthographic strategy, or a strategy that combines the two to recognize print.

All learners may come to the task of reading with the same innate cognitive base. However, prior experience in the form of social and cultural factors can produce contextual differences that can significantly impact how learners intergrate the target language and the degree to which learners rely upon different processing strategies. L1 learners begin literacy learning as expert speakers of the language and are therefore more likely to use strategies that utilize their oral knowledge. These learners, living within the target language setting, are also likely to have a (sometimes significant) informal knowledge of written words and reading from prior experience and will have many more opportunities to use their classroom literacy learning outside of the classroom. Consequently, studies of early literacy acquisition processes in L1 may be of limited relevance to FL learning. Studies of

[2] Not all literature makes the distinction between FL and L2. In many studies L2 is used as an umbrella term that covers the learning of an additional language to the native language in any situation.

L2 literacy acquisition may have a greater relevance to FL learning, yet much of this research is focused on young children educated in immigrant or immersion settings. In these and most other L2 settings (e.g. post-British-colonial nations), English has a substantial societal presence beyond classroom walls (Bruthiaux, 2010). Hence, although L2 learners may not be fluent users of the language when literacy learning begins, they are exposed to a wider range of the L2 outside of school than FL learners. In a typical FL setting the target language may be studied extensively (such as is often the case with English), but used little or not at all outside of school. In FL settings learners are also under the influence of the native culture which may favor a distinctly different approach to language learning than the one promoted in school or by the (target language native) teacher. Kohn (1992), for example, reported that “the very patterns of reading behavior that American teachers are training their students to avoid are the ones that Chinese teachers expect their students to use” (p. 121). Matalene (1985), in her account of her experiences teaching English writing in China, reported similar dilemmas. The native learning culture influences significantly how learners approach a new language and the learning outcomes. In many Asian countries (e.g. Japan, China and Thailand), an examination culture exists that favors memorization over exploration (see Forman, 2005; Jin & Cortazzi, 2006; Phungphol, 2005) and as a consequence learners typically demonstrate low proficiency and communicative competence in English.

It is evident that the quantity and quality of language input learners receive in L2

and FL settings can differ greatly and that the differences are both sociocultural and cognitive. Nevertheless, studies of early literacy development in L2 can be useful in highlighting the differences between L1 and non-L1 acquisition and, depending on the particular sociocultural situation described, may be directly relevant to FL learning. In fact, many young L2 learners come into contact with L2 literacy with as little knowledge of the target language as young FL learners and, similar to FL learners, they are already speakers or even literacy learners of their native language. In such cases, the problems and challenges these L2 learners face are likely to be the same as their FL counterparts. Because of the contextual differences, however, the literacy development of L2 and FL learners is likely to take a different path. As stated, implications for FL learning can be drawn from studies of L1 and L2 literacy acquisition, but studies that deal specifically with young FL learners in their specific context are clearly more able to provide relevant insights into the processes involved in early literacy learning in a foreign language.

Unfortunately, there is a perceptible absence of research on the early literacy development of young foreign language learners. Theories regarding FL literacy development have evolved largely from studies of L1 English monolingual speakers. Yet, given the impact of culture, language knowledge, L1, and ethnicity on literacy, the generalizability of research on L1 learners to FL learners is questionable. To attain a clearer understanding, it is essential to bear in mind the following differences between L1 and foreign language learning/learners (adapted

from Koda (2005) and Urquart & Weir (1998)):

1) Foreign language learners have limited linguistic knowledge of the foreign language.
2) FL readers typically do not have a highly developed pre-existing oral vocabulary in the foreign language (Koda, 1996 & 1994).
3) Foreign language learning typically takes place under distinctly different conditions and in a setting different to that of L1 learning.
4) Foreign language learners already possess knowledge of one language, which may be orthographically very different from the foreign language.
5) Foreign reading instruction begins at a different point in the FL acquisition than reading instruction in L1.

The variables involved in FL literacy learning complicate its investigation. The differences foretell that foreign language literacy learning may be cognitively, linguistically and socially distinct from L1 literacy learning. While the early stage of L1 literacy acquisition mainly involves the mapping of existing knowledge and concepts onto print forms with meaning construction at its core, literacy learning in FL often involves learners learning the spoken form and semantic and syntactic knowledge as they learn the print form, or just minutes or seconds before they learn the print form, hence there may be little existing knowledge. Hence, for L1 learners, literacy learning is the learning of the writing system whereas for FL learners it is the learning of the writing system *and* the language. Laufer (1997)

noted this distinction in stating that reading in a FL is both a reading problem and a language problem (Laufer, 1997). It is clear that an understanding of FL literacy cannot be attained by simply extrapolating the conceptual and methodological precepts of L1 research without due regard for the dominant factors characterizing FL literacy (Koda, 2005; Berndthard, 2005; Urquart & Weir, 1998). Any theories for FL reading and any adoption of literacy approaches must account for the effects of FL-specific linguistic and nonlinguistic variables, particularly prior literacy experience, dual-language involvement, limited linguistic knowledge, and social context.

2.4.2 Implications of limited linguistic knowledge and the absence of an established spoken system

Perhaps the most crucial factor in assessing the relevance of English L1 literacy approaches to FL literacy learning is that the majority of EFL learners have not developed a well-established spoken system in the language when reading instruction starts. Beginning L1 readers have already established a basic linguistic foundation through oral communication by the time formal literacy training commences. Hence, because L1 learners already possess the syntactic and semantic knowledge required for text comprehension, learning to read can be seen as simply a transfer of linguistic knowledge from the aural medium in which it was first acquired to the written medium (Fries, 1963). Phonics advocates claim that phonics learning is the best and quickest route for this transfer of knowledge

and that once children have learned to read the words on the page, they may have automatic access to meaning. Whole language advocates, on the other hand, may suggest that meaning of print words is learned through context and that once meaning is established learners may have automatic access to sounds. In both cases, however, learners benefit greatly from language knowledge. In the first, L1 learners' knowledge of the sound letter relationship serves as a mediator between the stored (known) sound and meanings and (initially unknown) printed words and the decoding that occurs may to some extent enable self teaching through independent recognition of printed words. In the second, L1 learners' syntactic knowledge can help to clarify the meaning of words in the process of comprehension (Goodman, 1989). The existence of a well-developed oral system in L1 learners therefore merits a teaching focus on decoding skill and one on whole language in L1 literacy instruction.

For EFL learners, however, without a well-established oral system, there is no existing lexical entry to which reconstructed phonological code of the printed word can be mapped. Hence, although phonics can serve as a tool to gain access to the pronunciation of the printed word in the process of self teaching, EFL learners do not necessarily gain access to meaning by sounding out words correctly because the word may not be in their spoken repertoire. Moreover, because of the nature of English orthography, phonics does not serve well in tackling irregular words. EFL learners also may not possess the syntactic and semantic knowledge of their L1 peers that is required to help reading comprehension, and accurate

interpretation of word meaning does not guarantee access to correct pronunciation.

In addition to the problems referred to above, obtaining a ‘complete’ pronunciation (i.e. one that includes appropriate stress patterns) may be impossible without stored word sounds to provide confirmation: stress is not directly signaled by spelling but determined by the acquisition of a sophisticated system which involves the simultaneous integration of the entire phonemic structure of the words, together with syntactic information (Smith, 1994). In the absence of a spoken repertoire, foreign language learners cannot activate syntactic and semantic knowledge of the words to derive correct pronunciation. Moreover, because foreign language learners do not share with L1 users the mastery over the expressive and receptive use of the phonemic and syllabic repertoire of the language (Wade-Woolley & Siegel, 1997), segmenting and assembling different sound units in the target language may be a more cognitively demanding process for EFL learners.

The learning of phonics is essentially an oral skill which depends for its success upon well-developed auditory discrimination (Huang & Hanley, 1997). The absence of a well-developed oral system implies that most foreign language learners may have to develop auditory discrimination at the same time as they acquire the spoken and written forms of the language. How this may influence phonics learning and use to aid pronunciation needs research specification. To

some extent, however, the challenges facing EFL learners may be restricted to self-learning situations: in a typical classroom context, learners may be exposed to the correct pronunciation of print words repeatedly, allowing a direct link between the print word and its sounds and bringing into question the necessity of phonics in this context. The role phonics plays in the learning process may also depend on how the spoken and written forms of new words are presented. That is, the spoken form (sound-meaning link) can be introduced prior to the written form and phonics knowledge then used to reconstruct the word in print (i.e. as a mediator between meaning and print), or the written form (print word-meaning link) can be presented and phonics used to sound out the words (i.e. as a pronunciation system). These different roles for phonics may affect learner perceptions and utilization of phonics. An additional variable that may affect learner's use of phonics is the way in which the sound-letter correspondence is introduced: Whether the sound letter relationship is taught systematically in isolation and reinforced in the practice of sounding out regular words or whether phonics is taught alongside high frequency words, which are mostly irregular, may affect learner attitudes to and perceptions of phonics.

The specific purpose of phonics is to connect sounds to print forms but it is important to note that gaining access to the sound of the print word is only a small part of print word acquisition. To learn a word, at the most basic level, a foreign language learner has to link the meaning with the sounds, the written form with the sounds, and the written form with the meaning. To consolidate the various

links, words need to be learned, re-learned, and reinforced through repeated exposure. In a context where there is limited time for EFL learning and as the purpose of reading is ultimately to derive ‘meaning’ from print, to what extent EFL learners use phonics in their literacy learning remains to be seen. It is evident that because of the absence of a well-established spoken system, EFL learners under phonics instruction have a lot more challenges to contend with than EL1 learners.

2.4.3. Language processing across languages

A thorough understanding of the impact of different orthographic systems is required if teaching strategies are to be optimized in different languages. Orthographies that have a regular one-to-one mapping between phonemes and graphemes are classed as shallow, whereas those with irregular transcriptions, such as English, are classed as deep. The orthographic depth hypothesis (Katz & Frost, 1992) suggests that the ability to read a text is dependent not only on factors related to the reader, such as personal characteristics and abilities, but also on factors associated with the orthography of the language and, in particular, the regularity of the transcription of phonemes. Seymour, Aro and Erskine (2003) indicate that because of the complexity of rules in deep orthographies, learners take longer to acquire fluency in both reading and spelling in those languages, estimating that, compared with most other European languages, reading English takes an additional 2 or 3 years to master. Further, Ziegler and Goswami (2005) concluded that the marked differences in reading accuracy and speed they

identified across orthographies were due to fundamental differences in the phonological recoding and reading strategies developed by learners in response to the orthography. Scholes (1991), for example, found that native speakers of languages other than English used a phonological strategy (i.e. the deletion of a sound) more competently than an orthographic one (i.e. the deletion of a letter). Moreover, Katz and Frost (1992) suggested that because phonological information is less readily available in deep orthographies, learners rely more heavily on visual-orthographic information in naming and lexical decision tasks. Such a contention has significant implications for L1 Chinese EFL learners.

2.4.4 Chinese orthography

Chinese has a deep logographic orthography, and is often taken as the prime example of a meaning-based system in which the written symbols (*characters*) represent lexical morphemes (Spencer, 2006). Generally, a character stands for an object or an idea that is represented by a monosyllabic morpheme which consists of an initial consonant followed by either a simple vowel or by a diphthong or vowel combination (Ho & Bryant, 1997), and there are a large number of characters that represent the same sound (albeit often the same sound with a different tonal quality). Over 80% of Chinese characters are compounds composed of a component which represents the meaning (the radical) and a component which indicates the sound of the character (the phonetic) (Huang & Hanley, 1995). Radicals are a kind of semantic classification system. Chinese

uses about 200 radicals, considerably fewer than the number of available characters. The phonetic component gives a cue for the appropriate pronunciation of the character, and Chinese readers therefore use this to guide pronunciation when they encounter an unfamiliar character. However, because the pronunciation of some characters has changed over the centuries, this strategy yields the correct pronunciation with only around 40% of phonetic compound characters (Zhou, 1978). Like words, characters may be analyzed into constituent elements, except that the phonetic element is graphic (strokes), and composed of radicals and semantic features (Gibson & Levin, 1975).

In Chinese speaking countries, different instructional tools have been employed to compensate for the difficulties of learning a deep orthography represented by hundreds of unique characters. In China, Pinyin, a system of Romanization (alphabetic script) for Mandarin Chinese, was adopted in 1979 (Huang & Hanley, 1995). Pinyin is a shallow orthography, with high consistency, and can be taught quickly (in 60 hours). Beginning readers initially read texts only in Pinyin, but conventional Chinese characters are rapidly introduced in the first year, forming a dual system and a self-teaching bridge to the character-based system, which eventually replaces Pinyin after several years of schooling (Spencer, 2006; Huang & Hanley, 1995). In Taiwan, children go through a similar process, except that instead of Pinyin they learn Zhu-Yin-Fu-Hao, a phonetic script of 37 unique symbols which represent the 37 sounds of Chinese.

Although L1 Chinese speakers use a phonetic system in learning to read the L1, it is used as a bridge to Chinese characters, unlike in English, where it is potentially the complete system. Initial Chinese character acquisition in young children actually develops primarily through visual memory and rote repetition (McBride-Chang, Chow, Zhong, Burgess, & Hayward, 2005; Siok & Fletcher, 2001; Wu, Li & Anderson, 1999): it is questionable whether learners of Chinese orthography display similar phonological and orthographic processes as those of English learners and whether the two processes play an equally important role. Of studies on this topic, Siok and Fletcher (2001) looked at children in China and found that whilst visual skills predicted reading success in the early years of learning to read, Pinyin knowledge and ability in homophone discrimination became predictors of success in later years, concluding that learners of written Chinese progress from a logographic (visual skills) phase to an orthographic–phonological phase. In an attempt to investigate possible differences in the relationship between reading ability, phonological awareness and visual skills in native English and native Chinese children, Huang and Hanley (1995) studied eight-year old Chinese speaking children from Hong Kong and Taiwan and English speaking children from Britain. Their results strengthen the view that phonological awareness is a primary cause of differences in reading ability amongst children who read an alphabetic script (the English-speaking children). For both the Taiwanese and the Hong Kong Chinese-speaking children, however, performance on tests of visual skills was the most powerful predictor of reading ability. Huang and Hanley (ibid) concluded that although there were

significant correlations between Chinese reading and phonological awareness, the results did not support the view that differences in phonological awareness per se are a primary cause of differences in reading ability amongst children learning to read Chinese, and that children with excellent visual memory skills are more likely to perform well than children with excellent phonological awareness.

2.4.5 Cross-linguistic transfer

The fact that foreign language literacy involves two languages has triggered a great deal of research on cross-linguistic transfer including investigation of the transfer of word recognition capability (e.g. Flege & Mackay, 2004), phonetics and phonology (e.g. Flege & Piske, 2002), speech perception and orthographic influence (e.g. Koda, 1998, 1999; Wang, Koda & Perfetti, 2003), morphology (Bliss, 2006; Koda, 2008), pragmatics (e.g. Yanco, 1985, cited in Koda, 2005), morphosyntax (e.g. Sasaki, 1993), metalinguistic awareness (e.g. Koda, 2005), and conceptual transfer (e.g. Odlin, 2005). Of this research, the transferability of L1 word recognition strategies is of particular relevance to early literacy instruction (Stuart, 1995) because of its assumed central role in comprehension.

Studies examining the extent to and manner in which L1 word recognition processing skills are incorporated in L2 processing (e.g. Wang, Koda & Perfetti, 2003) have demonstrated that irrespective of the learner's intention, well-developed L1 mapping procedures are likely to be activated by L2 input. In

fact, automatic activation of well-rehearsed L1 procedures during L2 lexical processing has been reported in bilingual experiments (e.g. Van Heuve, Dijkstra & Grainger, 1998). Furthermore, Durgunoglu (1998) studied Spanish speakers learning to read English in the USA and showed that phonological awareness in Spanish was both correlated with phonological awareness in English and facilitated word reading in English. Studies of children in French immersion programmes in Canada demonstrate similar cross-language transfer in phonological awareness (Bruck & Genesee, 1995; Rubin & Turner, 1989; Comeau, Cormier, Grandmaison & Lacroix, 1999). However, there is an increasing consensus that cross-language transfer of phonological awareness and hence facilitation of word reading is not symmetrical across languages and may depend on the characteristics of the different orthographies of the languages being learned (Mishra & Stainthorp, 2007). Indeed, ESL studies affirm that the linguistic conditioning generated by L1 linguistic features not only influences L2 acquisition (e.g. Gass, 1989; Scribner & Cole, 1981; White, 1989) but also constrains the cognitive procedures used in L2 processing (Randall, 2008). In other words, learners with different L1 backgrounds deploy different cognitive tactics during same language L2 reading. To understand transfer phenomena in the development of biliteracy therefore requires knowledge of the relationship between the structure of orthographic systems and cognitive processing of the languages involved.

Goswami and Bryant (1990) proposed the granularity and transparency

hypothesis to explain the cognitive consequences of orthography, describing orthographies along two orthogonal dimensions: transparency and granularity. The transparency dimension, similar to the orthographic depth hypothesis, relates to the degree to which the orthography maps the sounds in a one-to-one manner. Italian is an example of a script that is highly transparent whereas English has an orthography that is relatively opaque. However, both English and Italian are at the same level on the granularity dimension, which relates to the size of linguistic unit represented (they both represent language at the level of the phoneme). In Chinese, the unit of representation is the morpheme. Hence, in Chinese reading, morphological knowledge may play a more crucial role compared with reading in English (McBride-Chang *et al*., 2005). Also, learning to read English consistently requires more fine-grained phonological analysis than does learning to read Chinese.

It has already been noted that processing procedures established in L1 acquisition may be applied consciously or unconsciously to L2 learning irrespective of their suitability to the L2. Slobin (1985) described how children are sensitized to the particular features of their native language relatively early and how this linguistic conditioning moulds the cognitive procedures to accommodate its structural and functional peculiarities such that children cannot deal efficiently with linguistic forms that violate the prototypical structure in their primary language. This raises the potential for significant problems for the L1 Chinese EFL learner who has to learn to blend letter sounds at the phoneme level when learning to

read English, but blended character sounds at the syllable level when learning to read Chinese. While phonological transfer has been well-documented in studies of bilingual speakers of alphabetic languages (e.g. Durgunolu, Nagy & Hancin-Bhatt, 1993; Rickard, Liow & Poon, 1998), much less is known about how native learners of languages with larger phonological units such as Chinese transfer its phonological processing strategies to an alphabetic language. The potential for transfer from L1 does not mean that the new language plays no role in structuring the phonological domain, however. Research suggests that children exposed to more than one phonological system are likely to have heightened levels of phonological awareness (Bruck & Genesee, 1995). Moreover, a new language seems to have an impact on the first language, although such conclusions are mostly derived from limited studies on transfer effect between alphabetic languages. It is generally accepted that negative transfer into the later-learned language is correlated to the differences between the languages (i.e. more different leads to more negative transfer) (Birch, 2002).

In addition to the differences in the size of linguistic unit, English and Chinese also differ in the script type. Whereas English is an alphabetic language in which letters represent sounds, Chinese is a logographic language where individual symbols are associated with the meaning and sound of an entire word or morpheme. Hence the cognitive process involved in reading English and Chinese script may be different. In Chinese, because of the holistic linkages between sounds and logographic symbols, it is often argued that phonological information

is lexically accessed primarily through whole-word activation in visual word recognition (e.g. Gleitman, 1985; Mishra & Stainthrop, 2007). That is, Chinese readers rely almost entirely on the orthographic route. Conversely, studies of English speakers demonstrate that phonological encoding is preferable to visual coding.

It has been reported that encountering difficult-to-pronounce words impedes the reading comprehension processes of L1 English speakers but not L1 Japanese speakers (whose script is similar to Chinese) reading English as an L2 (Koda, 1987). This suggests that the Japanese learners were using a system that does not become more difficult when phonological encoding becomes more difficult, i.e, visual-orthographic processing, to read in English, and supports the theory that L1 processing is transferred to L2 learning. Kanji (the Japanese script) shares many similarities with Chinese script and it may therefore be assumed that L1 Chinese learners may show similar preferences for visual coding when processing print words in English. Young learners who are typically at the early stages of their L1 literacy acquisition when the teaching of English starts, as in Taiwan, may exhibit higher flexibility in their strategy use and this is another variable that needs to be taken into account.

Cross-linguistic evidence has shown that word recognition processes may be quite different in different languages. Such differences are largely a result of the properties of the L1 writing system. Consequently, Bell (1995) suggested that

when learning to read in a new language, more attention should be paid to establishing rapid word recognition procedures based on a “cognitive contrastive analysis” in which the two languages are compared not simply on a linguistic level but also at the processing level. According to Bell, word associations should be emphasised to build up associative networks and vocabulary presented and practised in phrases to establish “chunks”. This is likely to be achieved via ample practice with simple, comprehensible texts. Indeed, repetition of an activity is the common way to improvement and it may thus be true that rapid word recognition can be enhanced by the use of reading aloud, particularly the teacher reading aloud while students follow the text as this requires the student to recognise the word quickly in order to keep up with the reading. This may also enhance the recognition process by providing dual modality (visual and aural) for recognition to take place. Students’ following of text as the teacher reads aloud may reinforce not only grapheme-phoneme correspondences, but also the content/function word distinction and ‘chunking’ knowledge through the teacher’s use of stress patterns. However, these effects are largely based on speculation. Unfortunately, very little is known about whether and how differences in literacy instruction may affect such cross-linguistic processing transfer. Research on the mixed-language language processing domain of bilinguals and multilinguals has the potential to add relevant information to the discussion of EFL literacy instruction.

2.4.6 Transferability of L1 literacy concepts and attitude

The fact that foreign language learning typically takes place in a classroom setting raises the question of whether FL learner's perception of and attitude toward FL reading and writing differ from those of their L1. According to Wallace (1992), the social contexts of a reader's first language literacy use may be very remote from those of second language literacy use in the classroom and it is possible that classroom pedagogic practices cause learners to form certain beliefs about second language literacy that are distinct from those of L1. She added that teaching materials and classroom practice play a major role in shaping learners' conceptualization of second language literacy. However, as most FL literacy teaching takes place in literate societies where most learners have already formed perceptions of reading, it is likely that socio-cultural specific concepts of reading and reading behaviour may also influence learner perceptions and learning strategies in the new language. Paran and Williams (2007), for example, concluded that in a society where there is an emphasis on rote-learning, learners may favour such an approach irrespective of the language they are learning. Zhang (2008) found that the Chinese students in her study relied strongly on word knowledge rather than on strategies that might elicit word knowledge in their reading and attributed this to the way Chinese is taught in schools, where reading for accuracy is regarded as very important and teachers devote extensive time to ensure learners understand texts completely. In addition, Maley (1986) discovered that in China words such as 'book', 'reading' and 'literature' have different

conceptualizations and that these differences may affect how learners value certain reading strategies and behaviours (cited in Li, 2006). Carson, Carrell, Silberstein, Kroll, and Kuehn (1990) found differences in the pattern of literacy transfer in Japanese and Chinese learners. This is of particular consequence given that these learners share a similar L1 script and indicates that L1 educational experience and cultural literacy practices play a role in determining differences in cross-linguistic transfer.

Another issue that is relevant to FL literacy development is learners' attitude toward reading in a FL. According to Day and Bamford (1998), one of the factors influencing L2 reading attitude is the first language reading attitude. They remark, 'assuming that students are already literate in their first language, one source of attitudes toward second language reading is the attitude that students have toward reading in their native language' (p.115). What that suggests is that if learners hold a positive attitude toward reading in their first language, it is likely that they will also hold a positive attitude toward reading in another language. However, attitude is a very complex theoretical construct and can be linked to a number of determinants. According to an extensive and in-depth review of literature by Reeves (2002), there is considerable agreement among contemporary researchers that reading attitude is determined by the interaction between cognitive factors (evaluative beliefs), affect (feelings and emotions), and conative factors (action readiness and behavioral intentions). In other words, how learners evaluate FL literacy, their aptitude and proficiency level in the FL,

emotional involvement and what they consider to be the main purpose of learning to read in a foreign language are determinants of their attitudes toward FL literacy. To a great extent, how learners evaluate FL literacy is also influenced by their social interactions with teachers, peers and parents (William & Burden, 1999). McBride (2004) compared parental attitudes in the US and Hong Kong and found that in general parents in Hong Kong emphasized effort over natural ability in determining learning outcomes, and vice versa in the US.These attitudes are likely to transfer to the learning of a FL. Similarly, Bell (1995) stated that learners are likely to transfer attitudes toward text, expectations of form and content, and beliefs about the relative importance of neatness and content in writing to their L2 learning. In a context such as Taiwan where the mastery of the foreign language (English) is indispensable for educational success and career prospects, English remains the language of aspiration; hence, the society in general may attribute higher value to English literacy and such value attribution may reflect in learners' attitude toward foreign language literacy. Learners' attitude may also be associated with the strength of their language skills. Students who have poor language skills may demonstrate a higher level of anxiety, which may result in poor attitudes toward FL literacy (Macaro, 2003). What students perceive to be the purpose of reading in a FL is another variable that contributes to shape learners' attitude. If reading is viewed as a tool to gain language skills rather than sources of knowledge, learners are more likely to focus on language details (e.g. insist on understanding every single word in a text) and ignore the bigger picture (Ganshow & Sparks, 1996), that is, the value of reading for information and/or

reading for pleasure. Consequently, learners are less likely to persist with reading in the FL.

Classroom practice, prior literacy experience and ability all have the potential to affect learner perceptions and attitudes and hence these variables have the potential to influence EFL learners' engagement with literacy activities and their strategy development.

2.5 Chapter Conclusion

It is evident that the efficacy of phonics instruction in EL1 learning is still the subject of controversy. The irregular nature of English orthography and the interference from decoding effort on the cognitive process of meaning construction have been at the center of the argument against phonics instruction. Nevertheless, there is research support for the efficacy of phonics instruction for the acquisition of some aspects of literacy skill in EL1 learners. However, because foreign language learning differs both in terms of cognitive processes and sociocultural inputs, results from L1 research cannot be unthinkingly applied to EFL learning. Literacy learning is a multifarious skill, and the investigation of the efficacy of phonics instruction in EFL instruction requires insight into the learning context, in particular the L1 background and the practices and attitudes that the learner brings to the EFL classroom.

Chapter 3 Research Methodoloy

In this chapter, a number of paradigm issues relevant to the understanding of the rationale behind the current research design are discussed followed by a description of the research design for the current study. The study combines qualitative and quantitative techniques and involves four related phases of inquiry. A detailed account of the four phases of inquiry, a textbook analysis, a semi-structured teacher interview, a large-scale student questionnaire survey and a battery of diagnostic tests and tasks is presented along with the processes involved in the construction and administration of each method of inquiry.

3.1 Methodological paradigms

Research methodology refers to the methods a researcher may use in making an investigation. The choice of methodology is closely connected to and influenced by the belief system that guides the investigator. Harrison and Gough (1996) argue that every research project, every researcher and everyone who evaluates the results of research operates within a personal and professional belief system (see also Vidich & Lyman, 2000). The argument implies that behind each research methodology lie the researcher's personal philosophical assumptions and value systems. Before the project's onset, a number of paradigm issues need to be considered. These issues are crucial to the understanding of the rationale behind the current research design.

Paradigms in the human and social sciences advance assumptions about the social world, ways in which research should be conducted and what constitute legitimate problems, solutions and criteria of proof (Creswell, 1994; Firestone, 1987). As such, a paradigm can be described as a patterned set of philosophical assumptions concerning reality (ontology), knowledge of that reality (epistemology), and the role of values (axiology) (Creswell, 1994; Sale, Lohfeld & Brazil, 2002). The most widely discussed paradigms in human and social science are the qualitative and quantitative paradigms. The ontological position of the quantitative paradigm is that there is an objective reality that can be described as it really is (Sale, Lohfeld & Brazil, 2002; Guba, 1981; Guba & Lincoln, 1994), whereas the qualitative paradigm deals with supposed multiple realities constructed by individuals and is therefore interpretative (Denzin & Lincoln, 2000; Lincoln & Guba, 1994, 1985; Smith & Heshusius, 1986). The typical goal of a quantitative methodology is to measure and analyze within a value-free framework (Carey, 1993; Denzin & Lincoln, 2000). Techniques to ensure this include large sample size, randomization, blinding, highly structured protocols, and written or orally administered questionnaires with a limited range of predetermined responses (Sale, Lohfeld & Brazil, 2002). Qualitative methodology on the other hand seeks the emergence of non-predetermined categories and patterns based on extended engagement in the field (Creswell, 1994).

The dichotomies between qualitative and quantitative approaches have created situations where researchers who subscribe to either of the methodological

approaches are believed to be advocating a corresponding ideological and philosophical commitment, and there is much debate over whether quantitative research and qualitative research methods can be complementary. The purists of qualitative and quantitative paradigms argue that the incompatibility of both is evident as the belief of one (i.e. the existence of an objective reality) naturally precludes the truth of the other (ie. multiple realities) (see Guba, 1987). In addition, as the epistemologies that underpin each of the approaches are so divergent, some believe that they cannot be reconciled within a research project (Smith & Heshusius, 1986). Nonetheless, despite continued defense of the incompatibility between paradigms, numerous attempts have been made to legitimize a mixed methods approach.

Howe (1992) argues that although many research procedures or methods have been linked to certain paradigms, this linkage between research paradigm and research methods is neither inviolable nor essential. He distinguishes between method and logic of justification (epistemology) and stresses that differences in epistemological beliefs do not dictate what specific data collection and data analytical methods researchers must use (see also Brannen, 2005; Onwuegbuzie & Leech, 2005); hence, paradigmatic differences should not prevent a qualitative researcher from utilizing data collection methods more typically associated with quantitative research and vice versa.

Salomon (1991) and Shulman (1986) adopt another line of reasoning and argue

that the paradigmatic assumptions one adopts, the perceived nature of the phenomenon to be studied, the questions to be asked and the methodology to be used are interdependent and hence the kind of questions asked and phenomenon selected for the study determines the paradigms adopted and vice versa. As each of the paradigms serves a different purpose, addresses different issues, asks different questions (i.e. confirmatory or exploratory) and employs different methodologies, Salomon argues, it is evident that they yield different kinds of knowledge and need to be seen as complementing and enriching each other (see also Hammersley,1992; Lincoln & Guba, 2000). It is likely for a researcher to ask a number of questions in a single project, each of which may have different methodological implications; hence, within the research process it is possible to adopt a particular position on one issue and another on other issues (Gage, 1989). Approaching a subject from different perspectives or paradigms may help to gain a holistic perspective through which to view data.

Another line of justification for a mixed methodology research design centers its argument on the fact that both single methodology approaches (qualitative only and quantitative only) have strengths and weaknesses. Quantitative inquiry is useful in investigating causal relations among selected variables and allows the collection of data on a large scale. However, it fails to provide any explanation or analysis beyond the descriptive level (Johnson & Onwuegbuzie, 2004). A qualitative approach, on the other hand, provides rich and in-depth descriptive and documentary information of the phenomenon investigated, whereas it falls

short of means of validating and generalizing research outcomes (Miles & Huberman, 1984). The notion that qualitative inquiry needs certain standard criteria of validity and reliability has met with some resistance. For instance, Smith and Heshusius (1986) hold that concepts such as valid, real, dependable, and trustworthy are defined differently in different paradigms and that any attempt to standardize validation procedures for qualitative inquiry would unwisely transform the paradigmatic debate into a discussion of methodological variations within a realist philosophical temperament. However, without certain standard means of validation, as Salomon (1991) pointed out, how should scholarly interpretations of a classroom event be distinguished from those of "a delirious observer"? The notion that qualitative research needs some means of facilitating generalizability is similarly opposed by some qualitative purists. For instance, Cziko (1989) stressed that as the phenomena studied in the social and behavioral sciences are essentially unpredictable and indeterminate, educational research should limit itself only to portray, appreciate, interpret and explicate social and individual behavior and reject the possibility of formulating laws of behavior. However, he nevertheless expresses wishes to see research ‘lead to the implementation and dissemination of innovative educational practices’ which is, as Salomon pointed out, impossible in the absence of any agreed-upon criteria for representativeness and some pretension for generalizability. The solution, as Johnson and Onwuegbuzie (2004) pointed out, lies in a mixed methods research which combines quantitative and qualitative research techniques, methods, approaches and concepts.

The belief underpinning the present research is that some social phenomena are directly observable and some are not and that important relationships between social phenomena cannot always be easily established. It is also believed that to have a thorough understanding of any social phenomenon requires that it is studied at all levels (i.e., cultural, psychological, cognitive, etc). Methodologies based on quantitative and qualitative investigation may have particular strengths and weaknesses with respect to these levels and to the description of social phenomena. While a quantitative approach may be appropriate for directly observable relationships, a qualitative approach enables the collection of more in-depth descriptive information of relationships that are not directly observable. Consequently both quantitative and qualitative methods are utilized in the present study in the expectation that this will add flexibility to the analysis, allow the collection of complementary data, and ultimately offer a better chance of competently answering the research questions.

3.2 Research design for the current study

Any choice of research design must be appropriate to the subject under investigation. Since the nature of literacy is often multifaceted, spanning cognitive and social affective aspects and involving many interdependent variables, it is believed here that for adequate, illuminating research to be carried out in the area of foreign language literacy, a range of information is required. To do so, it requires the use of a multi-faceted approach. Hence, the research design for this

study combines qualitative and quantitative techniques and involves four related phases of inquiry. The first phase of the project, textbook analysis, aims to unfold the underlying assumptions of the role of phonics in the officially approved textbooks. To some extent the findings of the first phase of inquiry may provide informed questions for the second phase of inquiry. The second phase of the study consists of a semi-structured teacher interview intending to explore the teachers' perceptions of, attitudes toward and beliefs surrounding phonics instruction and literacy acquisition in EFL as well as the teachers' classroom implementation of phonics. It is believed here that the qualitative measure will help to obtain rich explanations of the nature of the teachers' knowledge, attitudes and any other variables that may potentially be relevant to the current research. The range of views collected in the interviews will then be used to provide contextual information about the target population and guide the construction of the third phase of the study: nationally representative student questionnaires. The quantitative surveys allow the collection of a large amount of data that will be used to complement the findings of the interviews by indicating how representative these findings are. The fourth phase involves a battery of diagnostic tests and tasks devised to investigate the role of phonics in the student participants' literacy development in English with the role phonics plays in word acquisition, reading comprehension and learning strategies as the focus. The findings can allow triangulation with the learners' self-reported strategies from the questionnaire and the construction of a strategy profile for young Taiwanese learners of English. As mentioned in Chapter 1, there are five key areas of investigation. The specific

research questions this study sets out to answer are:

R1. Textbooks

a) What is the underlying assumption of the role of phonics reflected in the text books?

b) How is phonics taught?

c) To what extent do the phonics rules taught in the textbooks prepare learners for the acquisition of the 1200 basic words, the vocabulary in each lesson and all the sounds in American English?

R2. Teachers' perceptions, beliefs and attitudes related to phonics teaching and English literacy

a) What are the teachers' perceptions of phonics? How do they perceive the relationship between K.K. and phonics? How do their perceptions affect their attitudes towards phonics teaching?

b) How and when do teachers think phonics should be taught?

c) What are the teachers' views on when best to start the teaching of reading and writing in relation to the teaching of listening and speaking? How do the teachers perceive the relationship between phonics and self-teaching? What are their opinions on young learners' ability to self-teach?

R3. The role of phonics in the teaching process

a) How do the teachers conduct a lesson? How is written and spoken vocabulary taught?

b) Are learners given opportunities to engage in self teaching practice?

c) When and how is vocabulary tested and spelling mistakes scored?

d) To what extent are the teachers aware of the efficacy of phonics instruction on their learners? Are they satisfied with outcomes?

R4. Learners' perceptions, beliefs and attitudes of phonics and English literacy

a) What do students understand of phonics?

b) What do learners' perceptions of and attitudes toward reading in English imply about the efficacy of phonics?

c) How do young Taiwanese learners evaluate their own learning performance on word reading and spelling?

R5. Learners' learning strategies and the efficacy of phonics

a) To what extent do the learners use their phonics to remember word spelling?

b) To what extent do the learners apply their phonics skills in vocabulary learning tasks?

c) Does phonics enable the learners to comprehend and sound out new words accurately when reading unfamiliar text?

d) What effect does phonics instruction have on learners' ability to differentiate vowel phonemes in words?

For each question, multiple methods are employed wherever feasible to cross-validate or complement the findings and to avoid bias in the interpretation of

data. The textbook analysis is designed to provide answers to research questions 1a, 1b and 1c and to a certain extent it may also offer clues to research questions 2a, 2b, 2c and 2d, which could then be assessed via responses to the teacher interview. The teacher interview is devised to find answers for research questions 3a, 3b, 3c and 3d and the student questionnaire aims to answer research questions 4a, 4b and 4c. The battery of diagnostic tests and tasks is created for the purpose of finding answers for research questions 5a, 5b, 5c and 5d. The choice of research instruments (see Appendix 3-1 for a summary) was made on the basis of what best suited the research question and consideration of the constraints on time. Table 3.1 lists the instruments used and the research questions each instrument aims to address.

Table 3.1 Research questions and instruments used to address them

Research Questions	**Research Instruments**
1a, 1b, 1c	Textbook analysis
2a, 2b, 2c, 2d	Teacher interview
3a, 3b, 3c, 3d	Teacher interview
4a, 4b, 4c	Student questionnaire
5a, 5b, 5c, 5d	Battery of diagnostic tests and tasks

3.2.1 Textbook analysis

Textbook analysis was chosen as an instrument for the present research because

of the influential role textbooks play in language learning and teaching. Good textbooks are integral to effective instruction. This is even more so in Taiwan where textbooks are the primary resource for EFL classroom instruction and the main source of information. How familiar learners are with the content of the chosen textbooks is often the key criterion for judging students' academic achievement. Hence, the quality of textbooks has the potential to determine the success or failure of a program. Historically, the National Institute for Compilation and Translation (NICT) under the Ministry of Education (MoE) was the sole institution in charge of compiling school textbooks. However, in 1996 the NICT provided material guidelines which specified the topics and genres, communicative functions and language components (alphabet, pronunciation, vocabulary, and sentence structures) required for new textbooks and transferred the creation of teaching materials to private publishers. As a result, the textbook publishing industry has prospered, especially since the educational reform in 2001 that introduced English into the primary school curriculum.

From the outset of this reform, primary school administrators and teachers have had the freedom to select among various versions of English textbooks from these publishers. Given the crucial role of textbooks, an examination of their phonics-related content can help determine the potential impact of phonics on children's literacy acquisition in English. The textbook analysis aims to provide information for research questions 1a, 1b and 1c.

3.2.2 Teacher Interview

The main reason for using interviews to collect information on teachers' attitudes, perceptions and teaching philosophy is that interviews allow the researcher the flexibility to clarify, explore and expand interviewees' responses and are the best way to obtain a direct measure of participants' perspectives (Lewis & Lindsay, 2000) and hence allow collection of a rich qualitative data. To ensure collection of relevant information for the intended research questions and enable informed and valid comparisons across the respondents, however, the interviews were semi-structured in nature. In the construction of interview questions, special efforts were made to avoid using technical terms, leading questions and words that may potentially be ambiguous. All the interview questions were generated from the intended research questions but to allow the flexibility to probe or build on the interviewees' responses, the actual wording or sequence of the questioning were not intended to be constant across all interviews. All the interviews were conducted in Chinese on a one to one basis to allow the establishment of a certain level of confidentiality and trust to extract the 'true views of the respondents' (Brown, 2001:7). To ensure that the guiding questions (see Appendix 3.2) could be clearly understood by the interviewees and served to elicit data relevant to the research questions, pilot studies were conducted.

The interview questions (see Appendix 3.2) were divided into three main categories: teachers' perceptions, beliefs, and attitudes toward phonics in relation

to English literacy (Questions 1-8), teaching approaches (Questions 9-24), and teachers' awareness of the effect of phonics instruction (Questions 25-28). Freeman and Richards (1996:01) described teachers as 'pivotal in the enterprise of teaching and learning'. Because of their pivotal role, teacher attitudes and beliefs can potentially alter the direction of a phonics program. Their ideology and knowledge of phonics are also of particular relevance in classroom implementation. If phonics is perceived as a mediator between written and spoken language, for example, the teaching of spoken vocabulary is likely to precede that of written vocabulary. On the contrary, if phonics is regarded as a pronunciation system, i.e. a replacement for K.K. in Taiwan, written vocabulary may be taught as a gateway to spoken vocabulary. Fullan (1991) and Fang (1996) concluded from their research that teachers' attitudes and beliefs are very difficult to modify or alter. As teachers' beliefs may not necessarily be those of the textbook writers, teachers' teaching approaches were included in the investigation as a means of detecting the extent to which teachers' beliefs and teaching approaches were dictated by textbooks. Studying teachers' awareness of the efficacy of phonics instruction also allowed the current research to detect whether teachers' attitudes and beliefs are shaped by a fundamental understanding of the workings of phonics and English orthography or by the educational philosophy extant in Taiwan. The results of the textbook analysis contributed to the construction of interview questions 1, 7, 8, 9, 10, 11, 12 and 13 and it is hoped that the results of the interview questions allow cross examinations of the extent to which the teachers share similar ideology of phonics and its teaching to that reflected in the

textbook.

Table 3.2 shows the correspondence between the specific interview questions and the research questions they aimed to answer.

Table 3.2 The link between Research and Interview questions

Research questions	Interview questions
2a	1-8
2b	9-13
2c	14-15
2d	16-18
3a	19-20
3b	21
3c	22-24
3d	25-28

The semi-structured interview format allowed the creation of an interview framework which enabled the researcher to introduce, guide and conclude the interview in a consistent manner as well as ensuring that all the questions relevant to the issues under investigation were addressed by each participant. A set of probing questions was also prepared to be used when the interviewee's response indicated confusion or was insufficiently detailed. The first interview framework was pilot tested on four teachers in June 2007 and subsequent revisions were made to include issues arising from the pilot interviews which had been previously overlooked by the researcher. For instance, when questioned as to whether they thought phonics was essential for learning to read in English, all the teachers in the pilot research gave a positive response. Further probing found that ‘read’ was

interpreted as ‘sounding out words’ by all the teachers. A brief explanation was therefore added to allow further probing. After the revision, further pilot interviews were conducted on another three teachers in July 2007, resulting in the current interview questions.

3.2.3 Student Questionnaire

One reason for using questionnaires is because it is hoped that research findings can inform government policy and government preference is for quantitative data. The use of questionnaires also allows large-scale investigation. All questions and instructions were in Chinese to avoid potential interpretation problems and all adhered to guidelines set out by Brown (2001) and Dörnyei (2003), which include making items clear, simple, relevant, unbiased and avoiding negative terms and double barrelled questions. To ensure comprehensibility, special care was taken to ensure that language used was clear, succinct, and within the participants’ understanding. To increase the validity of the questions, the technique of triangulation in which two or more differently phrased questions were used to raise information for a similar issue was adopted (e.g. Q1& Q2; Q3& Q4). The questionnaire was piloted to ensure its utility as well as to determine the possible length of time it may take.

The student questionnaire (Appendix 3.3) comprised 25 questions which were divided into three sections: students’ perceptions and beliefs of phonics (Q1-Q7),

their perception and attitudes toward reading in English (Q8-Q14), and how they evaluate their learning performance (Q15-Q25). As learners' perception of and attitudes toward phonics and English literacy can affect their learning motivation and learning strategies to a great extent, it is essential that the investigation of these aspects of the learners is included in the research. In addition, as the examination of how learners evaluate their learning performance may allow some insights into the impact of phonics instruction on their learning, it forms part of the questionnaire investigation. The construction of questionnaire items 1-7 as well as 13-14 and 10-25 drew on the data obtained in the teacher interviews, which provided valuable information regarding the teachers' perceptions of the function and the effect of phonics and learners' learning strategies. In doing so, it was hoped to detect how the teachers' perceptions of and attitudes toward phonics and the teaching approaches impact on learners' perception of phonics as well as their learning strategies.

The questionnaire was completed in class and administered by the English teacher. To avoid taking up too much of the class time and to encourage participants to respond, they were asked to decide if they strongly agreed, agreed, were not sure, disagreed or strongly disagreed with given statements. For questions in which these answers may not have covered all the choices (Q25), a blank space titled 'other' was left for participants to specify their own answer. Technical terms were not used except for the term 'phonics' as the students had been exposed to this term on a weekly basis over a long period of time. To

ascertain whether background variables affected the results, the participants' age, gender, years of formal English study and school districts were also noted. Upon completion of the questionnaire, eight primary school English teachers' opinions on the suitability of the language, style and length of the questionnaire were obtained and changes were made according to their suggestions. The questionnaire was piloted on a class of 35 learners in March 2008 and the students' opinions on the questions were sought. In the pilot, some learners stated that as they were rarely required to read out new words, they were unable to come up with an answer for questionnaire item 17 & 18. Consequently, five new words and a brief instruction were added in Part III of the questionnaire.

The aim of the student questionnaire was to gather information for research questions 4a, 4b and 4c and to provide large-scale quantitative data to supplement and expand the findings of the teacher interview.

3.2.4 Battery of diagnostic tests and tasks

The main purpose of the diagnostic tests and tasks was to investigate the efficacy of phonics instruction on Taiwanese learners. The efficacy of phonics instruction on English L1 learners has been widely studied and its relevance to English literacy development well documented; however, because of the fundamental differences between EFL learners and EL1 learners, it is uncertain whether the outcome of this research can be applied to EFL learners. As various cognitive,

instructional, social and contextual factors can potentially contribute to shape its role, studying the strategic behaviour of EFL learners under phonics instruction is likely to yield a more accurate description of the impact, leading to more specific developmental theory and more appropriate instruction. The best way to investigate learners' cognitive processing strategies is to engage them in real tasks (Skehan & Foster, 2001); hence, a battery of diagnostic tests and tasks was designed. The tests and tasks were devised to engage a set of learners in the actual task of oral reading, spelling, word learning and vowel phoneme identification. In order to investigate whether learners' age, gender, extra curriculum exposure to English, length of prior interaction with English (i.e. years of study) and school region impacted on learners' strategy use, this background information was collected. However, to eliminate variables other than test and task modalities that could potentially influence participants' use of phonics skills and hence confound the results of the study, the sampling frame focused only on learners who possessed good phonics skill.

Pilot research was carried out on each of the tasks and tests before implementation. Through observations of what learners actually do in the process and the analysis of the end results of the tasks and tests, the research aimed to provide a strategic profile for young Taiwanese EFL learners as well as insight into the possible benefits and problems of phonics instruction.

3.2.4.1 Word learning task: visual or phonological

In the early stages of learning to read, foreign language learners may be exposed to spoken and written input separately or simultaneously through classroom instruction. However, as they progress to a higher stage, they eventually need to develop a self-teaching mechanism that allows them to deal with unfamiliar words independently. As successful lexical learning for FL learners involves the acquisition of far more than the sounds of words, the word learning task intended to examine the extent to which learners were able to use phonics to build up an auditory memory for the words where the meaning and spoken and written forms of words interact and compete for attention. It was anticipated that as the purpose of reading is to derive meaning from the print, it may be possible that the learners, despite possessing adequate phonics skills, would exert more effort on print-meaning association while neglecting other aspects of lexical acquisition. The consequence may be that the learners would eventually automate their print word recognition yet possess only a vague auditory memory of the words. That is, the learners would demonstrate a stronger memory for the print form of the words. The task and its associated tests were designed on the basis of this assumption: participants chosen were given a list of eight new words ranging from six-letter to thirteen-letter (see appendix 3.4a) to learn at home and informed that they must make sure they learn the words. On the designated test day, half of the participants were given a test consisting of sixteen words from which they were instructed to select the words from the list (see appendix 3.4b), followed by a

listening test (see appendix 3.4c) in which the learners were asked to identify which of the words named were from the list. In order to judge whether the order of the tests resulted in any differences in the participants' performance, the other half of the participants were given the tests in the reverse order. In order to see whether the participants established the meaning-print link, after the visual and audio identification tests, all the participants were given a spelling test which required them to write down the words according to randomized pictures of the new words. The tests may allow examination of the extent to which test modality directs foreign language learners' strategy use and the extent to which strategy use influences aspects of lexical acquisition.

The eight words were chosen taking into account the target learners' age and time available for the task as well as the fact that they contained regular and irregular elements but could all be sounded out by applying the phonics rules the participants possessed. In order to avoid potential processing interference from L1, the meaning of each new word was given in picture form as opposed to a Chinese translation. In addition, as all the words could be found on neither the official basic 1200 word list nor the textbooks used in primary schools and the major private institutes, they were more likely to be new even for learners attending private institutes. To confirm this, however, eight teachers' opinions were sought. In July 2007, the learning task and its associated tests were piloted on five learners who were recommended by a teacher associate as possessing good phonics knowledge and skill and who did not take part in the final

experiments. No requirements for change were found as a consequence of the pilot.

3.2.4.2 Spelling strategy test

In order to see whether phonics forms part of learners' automatic strategic repertoires in spelling, a task in which the learners were engaged in establishing short-term memory for the spelling of new vocabulary was designed. For the purpose of the task, nine pairs of new words (see Appendix 3.5) ranging from five to thirteen letters were carefully selected so that each pair consisted of one word that had more regular one to one phoneme-grapheme correspondence and could generally be sounded by applying the basic sounds of A to Z and one that contained phonemes represented by inconsistent or unusual graphemes and did not have the one phoneme to one grapheme relationship. The rationale behind the design of the task was that if upon encountering the words the participants' initial act was to sound out the words using their phonics knowledge, then words that had more regular phoneme-grapheme correspondence would naturally cause less difficulty as the application of phonics rules would be sufficient for them to memorize and retrieve the spellings of the words with ease. However, if the error rate of the pair of words were approximately the same or if the differences were insignificant, then it may be an indication that the participants had not been conditioned by the continuous exposure to phonics instruction to sound out words as their initial step and that other strategies (e.g. visual strategies, letter name

repetition, etc.) or factors (level of familiarity with phonics rules, practice, etc.) may be playing a part.

In most of the spelling research, nonwords are typically used to assess encoding skill as they do not have lexical entries and can, therefore, be used to assess learners' knowledge of sound-letter correspondences. However, as nonwords may not realistically reflect the complexity of English orthography and as it is part of the aim of the study to detect the extent to which learners were able to spell regular words and words with exceptional phoneme and grapheme relationships, real words were used. As many learners who possess good phonics knowledge and skill may also have attended private institutes and thus may have acquired a significant amount of vocabulary, less common words were chosen to ensure their novelty. That the words were new to the participants was confirmed by both the teachers and later by the participants themselves. During the task, each new word was randomly presented one at a time to each learner for seven seconds for word pair 1-4 and nine seconds for word pair 5-9. After that, the word was removed and the learner was given 5 seconds to reinforce his/her memory of the word and instructed to write it down. During the process, each learner was closely observed for any signs of their strategy use, i.e. signs of letter name repetition or attempt at sounding out the word.

A pilot test was first carried out in July 2007 on the same five learners who participated in the pilot of the word learning task; as a result, the learners reflected

that the time allocated for the exposure of each new word during the task was insufficient. The high error rate reflected their claim. However, such a result may either be the consequence of the application of inefficient strategies or indeed be the result of insufficient time. In order to judge the adequate length of time for the task, another five learners were asked to take part in the task but were specifically informed to use the phonics strategy, that is, they must follow the procedures of sounding out the words as the first step, consolidating the auditory memory of the words and then writing them down. They were instructed to indicate when they were ready to spell each word and the time it took for the five learners to reach that stage for each of the new words was measured using a stop watch. The final length of time for the display of each word in the task was decided based on the time if took the slowest of the five learners in the second pilot to establish the auditory memory of the new words.

Another pilot test was performed on another five learners in January 2008, which helped to confirm the suitability of the words selected and the time allocated for the test. None of the learners in the pilot studies participated in the final study.

3.2.4.3 Oral Story reading task

Goodman (1967) described reading as a ‘psycholinguistic guessing game’ and suggested that readers draw on graphophonic, syntactic and semantic cues to make sense of text. What this implies is that when a written word is new to

learners, phonics knowledge can either be used to retrieve the meaning of the word through decoding when the use of syntactic and semantic cues fail to identify its meaning or to provide confirmation for the meaning of the word already identified through other cues. In other words, phonics knowledge helps to support comprehension and word identification. It is fundamentally a self-teaching process: the teaching of the meaning of written words. However, because this assumption is made based on the observation of the EL1 learning process, it cannot be certain that EFL learners demonstrate the same learning mechanism. To a certain extent, provided that the text selected is within learners' level of English ability, EFL learners may be able to apply the same cues in comprehension, and phonics may also enable self-teaching. However, because of the absence of an established spoken system, when a word is unknown to EFL learners, unlike L1 learners, the application of phonics knowledge will not help to clarify the meaning when syntactic and semantic cues fail to do so. In this circumstance, 'self-teaching' is restricted to the teaching of the sounds of the unknown word. However, when the application of the other cues is able to identify its meaning, phonics knowledge, though unable to confirm the meaning identified, will allow self-teaching of both the meaning and the sounds of the unknown word. The problem, however, is that because of the nature of English orthography, knowledge of the sound-letter conversion rules may not necessarily enable accurate pronunciation of words. In addition, the concentration required to segment words and the struggle with the uncertainty of word sound may potentially interfere with the comprehension of text. To investigate how exactly the

learners deal with unknown words in text and the potential difficulties and challenges they may encounter when phonics is used as a pronunciation system, an oral story reading task was designed. Oral story reading is a useful tool for gaining insight into reading development and the reading process (Hall, 2003).

The story (see Appendix 3.6), 'The sun and the wind' was chosen for the task on the basis of it being a well known children's story in Taiwan containing both known and unknown words for the students. The decision behind the use of a known story took into account the potential divergence in the learners' level of English. As it is difficult to select a text which would fit the level of all the participants, it was hoped that a known story may serve to complement the complexity of the syntactic structures for lower level learners. In the task, the students were individually asked to identify words that were unknown to them in the text and then asked to read out the story. Based on theories of models of word recognition, it was expected that whereas the sounds of the known words could be automatically retrieved through a visual mode of access, sounding out the new words required the use of knowledge of sound-letter correspondence and phonological awareness, and thus allowed investigation of the extent to which phonics knowledge enables learners to sound out words accurately. At the end of the reading task, each learner was asked to give a brief account of whatever they knew of the story as a means of checking their comprehension and identify the new words they were able to infer the meaning of during the reading task. Each story reading was recorded and transcribed to see if any general patterns

emerged from the task. The task was first piloted on the same five learners who participated in the final pilot study of the spelling task in January 2008. The result of the pilot found that reading unfamiliar text which contains a fair amount of new words could potentially be a time-consuming and strenuous process for lower level learners; consequently, the original story was replaced with the shortened simplified final version, the utility of which was confirmed following another pilot study in February 2008.

3.2.4.4 Vowel phoneme distinction test

Prior to the inclusion of English education in the primary school curriculum, the teaching of K.K. phonetic symbols representing the forty-one phoneme symbols in American English was a crucial part of the junior high school English curriculum for beginning learners. The teaching of the symbols made learners aware of the fact that differences in the quality of vowel phonemes results in meaning variation as well as enabling them to differentiate vowel phonemes that may potentially be interpreted as the same in Chinese right at the beginning of English education. Learners' initial exposures to print words were accompanied by the symbols to serve as an independent means by which learners could retrieve the word sounds. The presence of the symbols also served as a constant reminder of the actual sounds of words when the teacher failed to accurately pronounce them. Phonics instruction has replaced the teaching of K.K. phonetic symbols to beginning learners and hence there is a greater reliance on teachers' pronunciation

accuracy for learners' ability to distinguish the sounds. However, as the inability to distinguish between certain vowel phonemes in pronunciation is a common failing of Taiwanese English teachers (Lin, 1996), the possibility may be that learners will be unable to judge, for instance, whether 'look' and 'moon' share the same vowel phoneme. In order to learn whether indeed such a problem exists among Taiwanese learners, a sound distinction test in which the learners were asked to judge whether the fifteen pairs of high frequency words selected for the test shared the same vowel phonemes was designed (see Appendix 3.7). The pairs of words were all from the official 1200 basic word list and are found in all main-stream textbooks. The test was piloted on five learners in January 2008, which helped confirm its utility.

3.3 Ethical issues

In formulating the research plan, attention was paid to ethical issues applying to research, including unbiased reporting and the necessity for participant privacy, voluntary participation, and freedom from stress. Additionally, efforts were made to minimize the possible impact of the investigation on the participants' teaching/study.

Prior to the investigation all the participants, which includes the teachers participating in the interview, the students taking part in the questionnaire and those in the diagnostic tests and tasks, were fully informed about the nature and purpose of the research, the procedures involved, the expected benefits of the

study as well as the possible impact on their teaching/study. Opportunities were also provided for the teachers and students to ask any questions pertinent to the study before they became fully commited to participate. In order that the students did not feel coerced into taking part in the study, the researcher stressed her role as a research student interested in finding out primary school learners' learning strategies as opposed to an authoritative teacher-figure intending to evaluate their personal learning performance. It was also made clear to the student participants that neither participation nor non-participation would affect any school assessments of performance. All participants were assured that they would remain anonymous throughout the study and that the data collected was strictly for research purposes.

For the teachers, the consent to participate was obtained through phone calls as well as E-mail communication. Student participant consent and parents' consent were obtained through a consent form. It was also made clear to all participants that they could withdraw from the study during any point in the investigation. Reconfirmation of their willingness to participate was also obtained on the day of participation.

As the diagnostic tests and tasks required one-to-one interaction between the researcher and the participants, with the consent of the class teacher several brief visits were made to the classroom during learners' break time to establish some level of familiarity and rapport and thereby minimize stress that may be felt during the later interview. Efforts were also made to ensure that the room designed for

the experimental study was comfortable and quiet but open and within easy access of their classroom. To create a pressure free environment, drinks and snacks were provided and the researcher maintained a friendly and relaxed attitude throughout each session.

Efforts were also directed towards reflecting the viewpoint of all the individuals involved in the study. No attempt was made to alter or manipulate their responses. To protect the participants' interests, all interview transcripts were returned to the participants for confirmation and the data collected through the diagnostic tasks and tests were presented to the learners involved and consent to use the data was obtained.

3.4 Methods of data collection and analysis

3.4.1 Textbook Analysis

3.4.1.1 Materials

At the time the research took place, there were more than 80 officially approved English textbooks for primary schools. In order to increase the likelihood that the result of the analysis would more accurately reflect the outcomes in primary school English classrooms, it was decided that the analysis should be limited to the most-circulated textbooks. Unfortunately, the process of compiling a list of top-selling English textbooks for primary school learners was not straightforward.

Several prolonged visits to the official website of the MoE failed to obtain any data on the circulation of all textbooks. Exhaustive searches on the websites of each of the 24 local bureaux of education and other on-line sources proved equally unsuccessful. There appear to be neither statistics nor official records of the English textbooks used by primary schools on any of the government websites. In an attempt to obtain this information, therefore, an e-mail enquiry was sent to the MoE (on December 10th 2006). In the reply, the MoE stated that to avoid impeding fair trade and the mechanism of a free market, it was inappropriate to perform any official statistical analysis, and suggested approaching each individual school to acquire the relevant information. As each of the local bureaux of education websites provides the web addresses of all the primary schools within its region, and some of these websites do provide a record of the English textbooks used by the particular school, a decision was made to pursue this line of inquiry. There were 2667 primary schools in Taiwan at the time of the research, however, and taking into account the time required to visit the websites of all the schools and the need to ensure a representative result, it was decided that twenty schools from each region would be randomly selected and their textbook use recorded as a means of identifying the most circulated English textbooks. Consequently, around five hundred school websites were visited. It was found, however, that many of those schools who do provide records listed only the name of the publisher. The analysis of use revealed that textbooks published by more than 15 publishers were used in the years 2001 to 2004. By 2005, six different publishers began to dominate the market. Further analysis of the trend in recent years (2005-2007)

showed a diminishing market share for one of those six publishers, and it was therefore decided to eliminate this publisher from the analysis. As textbook publishers in Taiwan tend to publish different sets of textbooks to suit the level of students in different schools, the remaining five publishers were then contacted to obtain information on their most circulated textbooks. Consequently, six series of ELT textbooks published by Hess publishing company, Joy publishing company, Kang Shuan, Longman (Pearson Education) and Kidcastle publishing company were selected for the analysis. Table 3.3 lists key information on the textbooks.

Table 3.3 Series of six textbooks used for ELT in Taiwan in 2005-2007

Publisher	Title	Volumes	Year(s) of publication	Target group
Hess	Happy English (HE)	1-8	2005-2007	Year 3-6
Joy	Joy English (JE)	1-8	2005-2007	Year 3-6
Kang-Shuan	Hello Darbie (HD)	1-8	2005-2007	Year 3-6
Kang-Shuan	New Wow English (NWE)	1-8	2006-2007	Year 3-6
Kidcastle	Magic Land (ML)	1-8	2006-2007	Year 3-6
Longman	Go SuperKids (GS)	1-4	2006	Year 3-6

In alignment with the statutory requirements of the official curriculum guidelines, all five publishers claim to adopt a communicative approach in the design of the textbooks and place great emphasis on their phonics elements. All the textbooks come with corresponding workbooks and teacher’s guides. Although the focus of

the present research is on the analysis of the student books, it is felt that examining activities in the workbooks may reveal how the content of the lessons was meant to be practised and consolidated and whether phonics may play a role in the process. In addition, as teacher's guides are likely to contain instructions to teachers on phonics teaching, they are essential to the interpretation of the content of the student books. Hence, workbooks and teacher's guides are also included in the analysis to supplement and reinforce the findings of the student book analysis.

3.4.1.2 Procedures

Once the textbooks were identified, each of the five publishers was contacted and after being given a detailed account of the purpose of obtaining the textbooks, all agreed to send free sample books. However, among them, Kang-Shuan did not have a complete set of one of the two series of textbooks required for the research at the time of the contact. After negotiation, the publisher agreed to allow the researcher access to the electronic format of the textbooks (New Wow English) and their associated materials via the company website.

3.4.1.3 Framework for the analysis

In order to collect relevant information for the research questions, a framework of analysis in which eleven aspects of the textbooks were examined was applied:

Research questions	**1a:** What is the underlying assumption of the role of phonics reflected in the text books?	**1b:** How is phonics taught?	**1c:** To what extent do the phonics skills taught in the textbooks prepare learners for the acquisition of the 1200 basic words, the vocabulary in each lesson and all the sounds in American English?
Aspects for analysis	● when the teaching of reading and writing starts in relation to the teaching of speaking ● when phonics is taught	● whether phonics is taught analytically or synthetically ● whether there are any perceptible levels of progression ● whether the teaching of the sound-letter knowledge follows any specific framework ● whether there are any word building or spelling activities ● whether chants or rhymes are engaged to practice phonics ● how phonetically regular the words selected for phonics practice are	● how many of the phonics rules governing the1200 basic words are covered ● to what extent learners can use the phonics rules taught to sound out words in each lesson ● whether the rules cover all phonemes in American English

3.4.1.3.1 Explanation and justification for research question 1a framework of analysis

- *When the teaching of reading and writing starts in relation to the teaching of speaking:*

For L1 learners of English, phonics is intrinsically a mediator between spoken and written language. The network of linguistic knowledge established through speaking interaction is the foundation of their literacy acquisition (Bald, 2007). The existence of such knowledge is crucial to the effect of phonics teaching because not only does it enable successful phonics decoding to result in comprehension, but it also allows learners to make predictions from knowledge of syntax and context to compensate for deficiencies in phonics knowledge. In other words, when printed words are decoded successfully, the meaning of the words can be easily retrieved. However, when the printed words cannot be easily deciphered through phonics decoding, the existing knowledge allows a range of cueing sources to inform and consolidate the choice and enable learners to monitor and self-correct themselves. It is believed here, therefore, that if phonics is to play a similar role in EFL learning, it is imperative that learners have a spoken repertoire and some linguistic knowledge of the language before proceeding to the learning of reading and writing and that learners' initial exposure to print words build on their existing spoken knowledge. By examining the onset of the teaching of reading and writing in relation to the teaching of speaking in the textbooks, therefore, it is believed the underlying assumption of the role of phonics in the process of literacy acquisition can be revealed.

- *When phonics is taught:*

Following the same argument, if phonics is to serve as a mediator between spoken and written words, learners should be made aware of the principle that English words are constructed of phonemes represented by letters and letter combinations and they should be taught the basic rules required for the recognition of their initial print words before demands are made on them to recognise and spell words. In other words, the teaching process should first focus on listening and speaking practices until learners establish an oral and linguistic knowledge deemed suitable for their level and then required phonics rules taught before learners proceed to print word recognition. Examining when phonics is taught is crucial in clarifying how the textbooks interpret the role of phonics in EFL learners' literacy development.

3.4.1.3.2 Explanation of and justification for research question 1b framework of analysis

- *whether phonics is taught analytically or synthetically*
- *whether there are any perceptible levels of progression*
- *whether the teaching of the sound-letter knowledge follows any specific framework*
- *whether there are any word building or spelling activities*
- *whether chants or rhymes are engaged to practice phonics*
- *how phonically regular the words selected for phonics practice are*

In the official curriculum guidelines, phonics is placed under the ‘teaching of reading’ and learners are expected to use basic phonics rules to pronounce and to spell words and to recognise words that occur frequently in the main content of each lesson. The official guidelines for materials stress that phonics should be used to help learners acquire the sound-letter links and to pronounce words and place phonics under the pronunciation section. In both guidelines, no reference is made to how phonics should be taught in order to achieve the objectives. The omission of such information can be interpreted as a deliberate attempt by the government to allow freedom and flexibility and a certain degree of autonomy in primary school English education; however, it indicates that how well students learn phonics may rely greatly on how the textbooks chosen by individual schools present phonics teaching. In the absence of official guidelines and research publications on how phonics should be taught to EFL learners, the present research drew on information on how phonics is taught to English L1 learners as the basis for the analysis.

The UK national literacy strategy (NLS) framework for teaching (D*f*EE, 1998) established a sequence by which phonics should be taught:

Students should…

- Be able to hear and say phonemes: *s, m, k, t, g, h,* in the initial position
- Recognise all initial consonant and short vowel sounds (*a-z, ch, sh, th*) in speech and in writing; to identify and write correct initial letters in response to the letter sound, word, object or picture.

- Discriminate, write and read final sounds in simple words.
- Discriminate, write and read middle (short vowel) sounds in simple words: *'a' (fat), 'e' (wet), 'i' (pig), 'o' (pot), 'u' (mug).*
- Read and spell words ending in *ck, ff, ll, ss, ng*
- Discriminate, blend and spell initial consonant clusters: *bl, br, cl, cr, dr, dw, fl, fr, gl, gr, pl, pr, sc, scr, sk, sl, sm, sn, sp, spl, spr, squ, st, str, sw, tr, tw, thr, shr*, and common ending clusters: *ld, nd, lk, nk, sk, lp, mp, sp, ct, ft, lt, nt, pt, st, xt, lf, nch, lth*
- Discriminate, spell and read the common spelling patterns for the long vowel phonemes: *ee, ea, ai, a_e, ay, ie, i_e, igh, i_e, y (fly), oa, oo, o_e, ow, oo, u_e, ew, ue*
- Discriminate, spell and read the common spelling patterns for the vowel phonemes: *u (pull), oo (good), ar (car), oi, oy, ow (cow), ou (sound)*
- Discriminate, spell and read the common spelling patterns for the vowel phonemes: *air, are (scare), ere (there), ear (bear), or (sport), oor (floor), aw (claw), au (caught), ore (more), er, ir, ur*
- Discriminate spell and read the common spelling patterns for the vowel phonemes*: ear (fear), ea (bread)*

The framework takes into account a considerable body of developmental research on both selection of the phonemes to be taught and the order in which the sound-letter knowledge is taught. For instance, the inclusion and positioning of the 6 consonants /s/, /m/, /k/, /t/, /g/ and /h/ at the early stage of

phonics teaching is a decision based on difficulty; to move from the easiest to the most difficult of consonant phonemes to identify (NLS, 1999). Similarly with level of progression, children are taught to segment the phoneme at the initial position of a word, e.g. /b/ in ‘bed’, then the phoneme in final position, e.g. /d/ in ‘bed’, and then the medial vowel, e.g. /e/ in ‘bed’ as the cognitive milestone for children is the ability to segment the phonemes in initial position (Henderson & Beers, 1980; Gentry, 1982; Read, 1986). Once the ability is firmly established, children will be able to progress to segment phonemes in other positions. Once children can segment and blend vowel phonemes, they can spell and read simple CVC words. The teaching of *sh, ch* and *th* at this point allows the introduction of the concept of the one phoneme/two letter pattern. The arrangement also takes into account that the three consonant clusters can be found at both the initial and the final position of words and will, therefore, enable children to continue practicing identifying the phonemes in initial and final positions. In general, a step by step guidance is provided so that learners can progress from identifying, segmenting and spelling CVC words to CCVC words as the relevant rules are taught.

In the framework, strong emphasis is also placed on a systematic, regular and frequent teaching of phonological awareness, the ability to rhyme and to relate this to spelling patterns, the ability to read words by sounding out and blending separate parts of words and to write words by combining the spelling patterns of their sounds.

The framework reveals that many factors can contribute to the efficacy of phonics instruction. For instance, whether phonics is taught analytically or synthetically through texts or text reading or as a separate set of skills and knowledge and whether the introduction of phonemes and the letters or letter combinations follow any particular framework (i.e. the sequence of knowledge of letters to be learned) and whether there is any level of progression (i.e. from identifying sounds at initial position to other positions and to CV or CVC word segmentation) can all impact on the effect of phonics teaching. In addition, as successful decoding involves not only the knowledge of the alphabetic code but also the skills of segmentation and blending (phonological processing skills), examination of whether there are any regular phonics word building and spelling activities to recycle learned phonics rules and whether words selected for practicing phonics skills exhibit particular phonemic structures (i.e. whether the words contain consonants and vowels in varying combinations) cannot be ignored. Furthermore, as repetition is an important element of the learning equation (Linse, 2007), use of rhyme or chants in the textbooks to enhance word attack skills can also have an impact. As a phoneme can be represented by one or more letters and the same spelling may represent more than one sound, whether the selection of words for practice takes into consideration their phonic regularity may affect the extent to which foreign language learners view phonics as a reliable instrument. For the purpose of the research, all these aspects of the textbooks were examined.

3.4.1.3.3 Explanation of and justification for research question 1c framework of analysis

Although the government defines the learning objective for phonics as ‘to enable learners to use basic phonics rules to sound out words’, it does not provide information on what the ‘basic phonics rules’ are and neither does it specify the words that learners are expected to be able to sound out. Once again, these decisions are left entirely to the textbook writers. To know the possible effect of phonics teaching, therefore, it is essential to know what phonics rules are included in the textbooks and whether they are sufficient for learners’ various needs.

- *How many of the phonics rules governing the basic 1200 words are covered:*

In order to judge the adequacy of the number of sound-letter associations taught in each set of the textbooks, it is necessary for the current research to create a measuring instrument in the form of a list of phonics rules that learners need to know to enable comparisons. However, what rules learners need to learn depends on the role phonics plays in the learning process. If phonics serves as the mediator between spoken and written language, the rules required should be the basic rules which govern the vocabulary of the lessons. If phonics is to be used as a system of pronunciation, then in addition to the rules required for each lesson, ultimately, all the possible rules of English should be taught. As primary school learners are still at the foundation building stage in their English learning, it

is perhaps unrealistic to expect that the substantial number of possible sound letter links in English can be acquired within the time frame. Nonetheless, criteria for selecting adequate rules to be taught are necessary if teaching is to be effective. In the official curriculum guidelines the MoE does not specify what words learners are expected to be able to sound out as the result of phonics instruction, but it does provide a list of 1200 basic words as part of the basis for primary school English textbook compilation. It is therefore justifiable to compile the list of rules from these 1200 words. Hence, each of the 1200 words was individually analyzed for its sound-letter relationships and then the number of occurrences of each rule was calculated. The list of possible sound-letter associations obtained was modified to exclude exceptional letter-sound links (see Appendix 3.8) and then was compared with the list of rules retrieved from each of the textbooks.

It has to be pointed out, however, that the analysis has not been a straightforward process, largely because what constitutes a rule and what should be considered as an exception and how words should be separated into different components is not always transparent. For instance, though the letter combination ‘ar’ as in ‘warm’ is linked to the phonemes in American English only once in the 1200 words, this link occurs in many other common English words. In addition, careful consideration is required to decide, for example, whether ‘cage’ should be divided into ‘c’ ‘a’ ‘ge’ , ‘c’ ‘a_e’ ‘g’ , ‘c’ ‘a_e’ ‘ge’ or ‘c’ ‘age’.

In order to make the rules as relevant as possible to the content of learning and taking into account what is achievable within learners' ability and time available, it was decided that rules should be selected according to their occurrence in the 1200 words only.

- *To what extent learners can use the phonics rules taught to sound out words in each lesson:*

Another important indication of whether the phonics knowledge taught is sufficient for learners' needs is to examine the extent to which learners can use the rules to tackle words in each lesson. Conforming to the requirement of the MoE, all the textbooks divided the vocabulary in each lesson into 'vocabulary for production' or 'vocabulary for recognition'. Words for production are words that learners are expected to be able to use productively in both speaking and writing. Conversely, words for recognition are words for which productive use is not required but which learners should be able to recognise in reading and listening. None of the textbooks specify the criterion by which the decision was made on whether a word is for production or for recognition. However, as learners are expected to spell the words for production and as the ability to use phonics to spell written words is emphasized in the curriculum guidelines, it is assumed that the rules taught in each lesson have a stronger link with words for production than with words for recognition. To enable the comparison and to get a clear idea of the extent to which learners can use the rules taught to tackle the vocabulary in each lesson all the words in each of the textbooks were analyzed for their phonics regularity

according to the rules taught.

- *Whether the rules cover all the phonemes in English*

As the MoE places great emphasis on learners' ability to sound out words using phonics, it is also relevant to this research to discover whether the phonics rules taught in each of the textbooks cover all the phonemes in English. For historic and economic reasons American English is favoured in Taiwan, and the rules covered in each of the textbooks were therefore examined in relation to the forty one phonemes of American English, represented in K.K. phonetic symbols, listed in Table 3.4

Table 3.4 Phonemes of American English

Vowels	vowels	double-vowels
	[i] [ɑ] [ə] [ɪ] [ɔ] [ʌ] [e] [o] [ə˞] [ɛ] [ʊ] [ɜ] [æ] [u]	[aɪ] [aʊ] [ɔɪ]
Consonants	voiceless consonants	voiced consonants
	[p] [t] [k] [f] [s] [θ] [ʃ] [tʃ] [h]	[b] [d] [g] [v] [m] [n] [ŋ] [z] [ð] [ʒ] [dʒ] [l] [r] [w] [j]

3.4.2 Teacher Interview

3.4.2.1 Participants

A key concern in conducting the interviews was the recruitment of an appropriate group of respondents. Though it was only small in scale, it was hoped that the

outcome of the interview would reflect the views of teachers from diverse backgrounds. Hence, an evenly representative population was sought and achieved by selecting participants based on several criteria: teaching experience, district, textbooks used and current teaching status. Eight teachers teaching grades two through six from 7 different primary schools in five different administrative districts were selected and were interviewed in a two-month period (February to March 2008). The teachers, aged from 28 to 47 years old, each had English teaching experience of more than five years and, although teaching specific grades of learners at the time of the interview, had all taught learners of grades 3 to 6. Among them, six had been teaching English to young learners in private institutes prior to the inclusion of English in the primary school curriculum in 2001. All but two teachers were at the time of the interviews using different sets of textbooks. All the teachers had undertaken the required English teacher education course. The number of teachers interviewed was considered adequate for the purpose of collecting in-depth information. The basic demographic characteristics of the teachers are shown in Table 3.5.

Table 3.5 Demographic characteristic of the teachers

Teacher	Age	Years of teaching	current grade taught	Textbook	District
T1	28	5	3-4	Mars	Tainan
T2	29	6	2-6	Go Superkids	Ping-Dong
T3	32	8	3-4	Hello Darbie	Taipei
T4	30	5	5-6	Hello Darbie	Taichung
T5	35	10	3-4	Joy English	Tainan

T6	33	8	5-6	New Wow English	Taipei
T7	47	20	5-6	Magic Land	Tainan
T8	31	7	2-4	Happy English	Kaoshiung

3.4.2.2 Procedures

Prior to the actual interview, the research project was introduced to potential interview candidates via the researcher's associates in the primary schools. Once consent was obtained, information regarding the participants was passed on to the researcher. Before the interview took place, each teacher was contacted by e-mail as well as phone by the researcher to reconfirm the details of the interview, the purpose of the research, the value of their contribution, the possible length of the interview and their willingness to participate. The confidential nature of the research was also assured. Each interview was arranged at a time most convenient for the teacher. All interviews took place in the school in the parent-teacher conference room. Following the advice of Richards (2003), each interview started with a general chat as a means of establishing rapport as well as collecting background information on the teacher.

All the interviews were conducted in an informal and conversational atmosphere. In order to elicit the teachers' own thoughts, special effort was taken to ensure that no guidance from the researcher was given unintentionally. However, prompts were given when a respondent requested further clarification on a question. For example, when asked 'How do you think phonics should be taught?' Three of the

respondents asked for clarification; thus, examples of ways in which phonics could be taught were given. All the interviews were conducted in Mandarin Chinese; however, as ‘phonics’ has been translated into a variety of terms according to what the user perceives its main function to be, to avoid misleading the respondents, the English word was used.

To ensure that teachers were comfortable answering the questions, care was taken to avoid judgment and comment on their answers. During each interview, confirmation questions were asked frequently to ensure that the interviewee’s responses had been interpreted correctly. The teachers were also free to pursue topics not covered by the questions. In situations where the teachers responded to one question indirectly while answering another, the unintended answer was not sought again except in need of further clarification; hence, with some teachers, not all questions were asked directly or addressed in the same order.

Each interview lasted between 40 minutes and one hour. All the interviews were digitally audio-recorded, with the teachers’ permission, using an MP4 voice recorder as well as a laptop recorder, accompanied by note-taking. All the interviews finished on very good terms and each teacher was given a little gift at the end of the interview as a token of the researcher’s appreciation. The transcript of each interview was sent to the respective interviewee to obtain permission for use upon completion.

3.4.2.3 Data Analysis

Full transcripts of each interview were written in Chinese to allow identification of 'recurring regularities' (Guba, 1978:53) in the data that could be used to identify meaningful categories. Teachers' responses to questions varied greatly. Some questions elicited extensive elaborated responses from some teachers but direct and succinct replies from others. The results showed that the number of words in the longest interview exceeded ten thousand characters while the shortest contained a little less than six thousand. All transcribed interviews were divided into coded segments representing complete thought statements to allow the linking of specific quotes to analytic concepts and categories. The coding categories were formulated according to the purpose of the investigation and the themes and patterns that emerged from the interview data. To ensure that the categories and their contents represented the interview data, a recoding was performed one week after the completion of the first coding. To achieve an intimate understanding of the data, the context and the respondents' background and experiences perceived as integral to the interpretation of the data were taken into account during the coding process. Appendix 3.9 presents a sample English translation of the relevant parts of one of the interviews.

3.4.3 Student Questionnaire

3.4.3.1 Participants

The sampling frame was the population of students having undergone the phonics

teaching designated for the primary school curriculum. Hence, year 6 learners at the end of their final term of primary school education were the participants in the survey. In order that the findings of the survey should represent young Taiwanese learners in general, deliberate attempts were made to ensure that students from different regions were involved. Through the researchers' personal network, the survey involved over 2700 students from 92 different public elementary schools who had undergone at least four years of formal English education. Of the schools, 48 were rural and 44 were urban.The participants ranged in age from 11 to 13 years, with a mean age of 11.96 (SD=.724) and had been learning English for between four and nine years (mean years of study = 5.3, SD = 1.5). Participants were from a variety of socio-economic backgrounds and all were Taiwanese and spoke both Chinese and Taiwanese. The table below shows the demographic details of the participants:

Table 3.6 The demographic details of the student participants

		No. of students
Age	11	760
	12	1284
	13	656
Gender	male	1346
	female	1354
Region	North	855
	Central	851
	South	994

3.4.3.2 Procedures

The questionnaires were completed in May and June 2009. Access to the schools was obtained through the researchers' personal network. Contact with the teachers of all the classes involved was made via phone, e-mail or in person prior to administration of the questionnaire and in order to elicit consent for and assistance with administrating the survey, and to explain the purpose of the study and questionnaire administration details. The questionnaires were then either mailed or presented in person by the researcher to each teacher who agreed to assist in conducting the survey. Before the actual administration of the survey, however, at the researcher's request, a brief note was attached to each participant's communication book to inform the participants' parents of the survey and obtain their consent for their children's participation. The questionnaires were distributed in the classroom during regular English classes by the teachers. Although a note was attached to the questionnaire to give a brief introduction explaining the purpose, the overall direction, the estimated time available, and the confidential nature of the survey, teachers were advised to emphasize the purpose of the survey and the importance of participants' contribution. Participants were also instructed to ask for clarification when difficulties in understanding or interpreting items occurred. Before submission, the participants were also advised to ensure that no questionnaire items were accidently left unanswered. All the questionnaires were collected immediately after completion by the class teachers and then returned to the researcher either via mail or in

person. Each questionnaire was then examined individually and those that were severely incomplete (with more than one third of answers missing) or did not appear to be seriously answered (e.g. ticking ‘strongly disagree’ or ‘strongly agree’, etc. for all questionnaire items) were discarded. In total, 2700 valid questionnaires were collected.

3.4.3.3 Data Analysis

For questionnaire items that required participants to mark the level of their agreement to a statement (Q1-Q24), the responses were gauged using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), thus a higher value indicated greater agreement with the statement. Responses to the rest of the questionnaire items (Q25) were individually coded. Descriptive statistics, including frequency, percentage, mean and standard deviation, were computed using SPSS version 14.0 to summarize participants’ responses to each questionnaire item. Pearson product-moment correlation coefficient was used to identify underlying factors in the participants’ responses and discern any significant relationships between selected variables.

3.4.4 Battery of diagnostic tasks and tests

3.4.4.1 Participants

In order to eliminate variables other than test and task modalities that could potentially influence participants’ use of phonics skills and hence confound the

results of the study, the sampling frame focused only on learners who possessed good phonics skills. With the support of four English teachers in four different primary schools, a pseudo-word dictation test was given to eight different grade six classes as a screening test to identify this sub-set of learners. The screening test was used to obtain an independent measure of decoding skill and to permit further control of factors that may influence reading and spelling accuracy. Based on the results and subsequent consultation with the class teachers, 47 best performers were selected. After examining the availabilities of students on the designated dates of the project, their willingness to be involved in the project, and obtaining parents' consent, 40 students remained. It has to be pointed out, however, that although the tasks and tests aimed to investigate the efficacy of phonics instruction on different aspects of literacy learning, it is hard to identify learners who possess 'perfect' phonics knowledge. None of the main-stream textbooks cover all the most common phonics rules and it is hard to assess the impact of extra-curricula English tuition. What the participants represent is a group of learners who had undergone all phonics programs designated for the primary English curriculum and were the best performers amongst a group of grade 6 learners. These 40 participants, 23 boys and 17 girls aged between 11 and 13 (mean=12.2), had been studying English for four to eight years (mean=5.75 SD=1.3) and were from four different elementary schools, two of which were located in the northern region of Taiwan and two in the south. All but two of the participants had at least some extra-curricula English tuition. All participants spoke both Taiwanese and Chinese.

3.4.4.2 Procedures

In order that the study did not interfere with the participants' normal lessons, after consultation with the class teachers, in all four schools all the administration of the tasks and tests took place in the spare forty minutes prior to the start of the learners' first lesson in the morning. Taking into account the nature of the tests and tasks and the time it would take for each of the learners to complete each task and test, the study took place on five separate days in each school. As both the spelling strategy test and oral story reading required that the learners be assessed individually, day 1 to day 4 were allocated for these activities. All learners were given the list of eight new words on day 1 and were informed that they would be assessed on day 5 without specifying the methods by which they would be assessed. On day 5, the participants were given the spelling, the visual and the audio word identification test on the eight words and the sound distinction test. In order to provide incentives for the participants to take the learning task seriously, they were informed that a little gift would be received after the tasks. The experiments took place in July 2008.

Both the spelling strategy test and oral story reading took place in a quiet parent-teacher conference room near the participants' classrooms. Before the tests, all the participants were given a time table and asked to appear at their appointed time. During the spelling strategy test, each new word was randomly presented one at a time for seven seconds for words 1 to 10 and nine seconds for

words 11 to 18 to the individual learner tested. After that, the word was removed and the participant was instructed to write it down. All the participants were informed that they were allowed as much time as they needed to write down the words and that they only needed to initiate display of the next word when they were ready. They were also informed that they could make any changes if they detected errors in words they had written down. During the process, the participant was closely observed for any signs of strategy use, i.e. signs of oral repetition or hand movement. Taking into account the possible frustration caused by the challenges of memorizing the spelling of longer words, during the process, the participants were reassured that there was no pressure to perform and that the result was strictly for research use.

In the oral story reading task, each participant was presented with the story and asked to visually assess the text and underline words that were unknown to them. Once that was done, they then proceeded to read the text out. All participants had been informed that their reading would be audio-recorded when their consent to participation in the study was obtained, and this was done using a laptop recorder. All the participants were given as much time as they needed to read the story. Once the reading finished, each learner was asked to give a brief account of the story and then instructed to identify the new words they were able to infer the meaning of during the oral reading process by placing a check mark on the new word.

The spelling, the visual and the audio word identification test on the eight words (given as their learning task on day 1) and the sound distinction test took place in a quiet room provided by each of the schools. For reasons of anonymity and to enable identification of the participants, each was issued with a number identifier (S1 to S40), and the participants were seated according to the number marked on the desk. In order to see whether the order of the visual and audio identification tests had any significant effect on their performance, participants S1 to S20 were given the visual word identification test followed by the audio word identification test, spelling test and the sound distinction test while participants S21 to S40 were tested in the same order except that the audio word identification test was given first followed by the visual word identification test. All the words in the audio word identification test were read twice. Students were allowed as much time as they needed to complete the tests.

To facilitate a pressure-free environment, all instructions were given in Chinese and the anonymous and confidential nature of the study was strongly emphasized to the participants. All tests and tasks were given individually by the researcher. All the participants turned up at the appointed time, except for one student who was absent for his oral story reading task on day 3 and did the task instead on day 5.

3.4.4.3 Data analysis

3.4.4.3.1 Spelling strategy test

Three aspects of the spelling strategy test formed the key analysis: the

participants' error rate, the error rate for each target word, and the percentage of spelling errors that could be pronounced the same as the target word (e.g. spelling 'extrinzic' for 'extrinsic') and those consisting of only component letters of the target word (e.g. spelling 'phanryx' for 'pharynx'). The reason for the analysis of the participants' error rate is that it allowed investigation of the level of difficulty of the task for the participants, which may reflect the efficacy of phonics to a certain extent. In addition, knowing how each participant performed also enabled investigation of whether any background factors may have had an impact on the participants' performance. Knowledge of the error rate for each target word may provide insight into whether word regularity and length affects spelling and hence allow conclusions to be drawn on the extent to which phonics is used in the process. Finally, misspellings that could be pronounced the same as the target words may suggest that phonics was being used, whereas misspellings that consist of only letters from the target word may suggest that a visual strategy or other strategies were at work. Knowing the participants' error patterns permits a judgment to be made on the possible strategies the participants applied to commit the spellings to memory.

To enable examination of each learner's performance as well as calculation of their accuracy rate and the error rate for each target word, all the participants' correct and incorrect spellings were individually listed in a chart.
All the incorrect spellings were also listed in a separate chart with error spellings that were phonologically similar to the target words in bold and misspellings

consisting only of target word component letters in italics to allow detailed analysis of the participants' errors. In judging whether the participants' misspellings were phonologically similar to the target word, the nature of the task and the participants' language competence were taken into account. As the target words were completely new to the participants, they were not part of their spoken lexicon. Hence, it was possible that faithful application of their phonics knowledge may result in different pronunciation to the actual words. Consequently, even if phonics was applied, the participants may still pronounce incorrectly, which may be reflected in their reproduction of the spelling. For instance, the misspelling 'bureucracy' may be the result of the participant pronouncing 'bureaucracy' as /bɝjʊkrəsi/, as *eau* in the word 'beautiful' is pronounced as /jʊ/. It may be that when the learner then proceeded to reproduce the spelling according to the sounds established in their short-term memory via a phonics route, he/she replaced *eau* with *eu* by mistake as *eu* can also be pronounced as /jʊ/, as in 'Europe'. Errors such as this may potentially be the result of application of phonics strategy and were therefore defined as phonologically similar misspellings to the target words. The adoption of such a criterion of judgment means that any misspellings which can be pronounced to fit one of the plausible pronunciations of the target words according to the corresponding rules are counted as phonologically similar misspellings. In addition, the potential impact of the participants' inability to distinguish certain vowel phonemes in their pronunciation was also considered when decisions were made on whether an error spelling is phonologically similar to the target word. It is possible that the participant who spelt 'destractive' for

‘destructive’ pronounced the phonemes /ɑ/ and /ʌ/ similarly and hence made the error of replacing *u* with *a* using phonics. Thus, errors such as this were also included in the calculation. Moreover, the erroneous spelling ‘croqette’ for ‘croquette’ was also defined as a phonologically similar misspelling. Although the letter *q* alone only occurs at the end of a word as in ‘Iraq’ and usually corresponds to the phoneme /k/, all the participants were taught that *q* correspond to /kw/ when the sounds of *A* to *Z* were taught. Hence it is possible that both *q* and *qu* correspond to /kw/ in the participants’ perception. Though in this instance the *qu* actually corresponds to /k/, the error can still be considered the result of the application of phonics strategy.

In order to see whether the participants’ gender, length of prior English exposure and region had any impact on their spelling performance, each participant’s error rate and the background variables were computed and Pearson product-moment correlation was performed on the data.

3.4.4.3.2 Word learning task: visual or phonological

All the participants’ answers for the spelling, visual and audio identification tests were marked according to the answer sheets compiled by the researcher. For both identification tests, although there were eight new words to be identified, there were sixteen test items. It was possible for the participants to correctly identify all the eight words simply by placing ticks on all sixteen test items. To

avoid this possibility and to ensure a realistic reflection of their word learning outcome, one point was awarded for each correct answer for all test items, making 16 points the top score for both identification tests. There were only eight pictures for which the participants were required to spell the words and hence the maximum score for the spelling test was 8. The scores of each participant were calculated and imported into SPSS 14.0. To measure whether the differences between the participants' performances on each of the tests were statistically different, one way repeated measures ANOVA was performed on each of the data. Means and standard deviations were also calculated for each test. Pearson product-moment correlation was performed on the data to see whether the background variables and the order in which the tests were given affected learners' test performance.

3.4.4.3.3 Oral story reading task

All the readings were transcribed. The transcription focused on the errors the participants made, hence, only words that were mispronounced were marked in phonemic transcript. However, when the same word occurred more than once in the text and was pronounced differently, all the sounds the participants made for the word were transcribed to show the inconsistencies. The phonemic transcriptions were marked with italic K.K. phonemic (phonetic) symbols bounded by forward slashes // immediately after the original word. Where the mispronunciations were real words, however, they are shown in parentheses

following the original word. Any comments that participants made during the reading task were recorded inside square brackets [ ]. The transcription also recorded any processes of self-correction by separating all the sounds a participant made for the same word with a dash -. The words that the participants identified as new were underlined in the transcription, and the new words they were able to infer the meaning of were in bold. The method of transcription allowed a qualitative as well as a quantitative analysis of the transcription. The purpose of the method was to make it possible to reconstruct the actual oral reading of the text as well as the original text.

As one of the key investigations is the extent to which the participants were able to sound out new words accurately, the accuracy rate of the new word reading was calculated. Taking into account the influence of their first language, words that were pronounced inaccurately but were similar to the target pronunciation were categorized as correct pronunciations. Note that the accuracy rate was calculated as the number of new words read out correctly by a participant divided by the total number of words that were new to the participant. Errors made on the words that the participants indicated as known to them were not included. In order to gain insight into whether the participants had control over the content of the story as well as the possible causes of their reading errors, the reading errors were analyzed to see if any patterns emerged.

3.4.4.3.4 Vowel phoneme distinction test

All the participants' answers were recorded in a chart and then marked according to the answer sheet compiled by the researcher. Because the target accent in Taiwan is General American (GA), the answer sheet was compiled based on that accent. Several dictionaries (Oxford, Longman, Collins Cobuild and Merriam-Webster) were used as references to confirm the pronunciation of the words in GA. Confirmation of the accuracy of the answer sheet was also sought from the teachers interviewed and a native American teacher who spoke GA. Descriptive statistics, including the maximum score, minimum score, means and standard deviations of the participants' accuracy rate were computed to summarize the participants' performance using SPSS version 14.0. Distribution of the participants' marked level of difficulty was calculated to reflect the participants' general perception of the task. In order to see whether any patterns emerged in the participants' errors, the error rate of each pair of words was also calculated. Pearson product-moment correlation was used to assess the impact of the background variables on the test results and the participants' perceptions of the task.

Chapter 4 Textbook analysis

This chapter presents the results and discussion of the textbook analysis. The textbook analysis aims to provide informationon on how phonics instruction is organized and presented in mainstream textbooks and hence the intended role of phonics in Taiwanese EFL learners' literacy development. The findings of the textbook analysis also served to provide informed questions for the teacher interview. The analysis aims to answer research questions 1a, 1b and 1c.

R1. Textbooks

a) What is the underlying assumption of the role of phonics reflected in the text books?
b) How is phonics taught?
c) To what extent do the phonics rules taught in the textbooks prepare learners for the acquisition of the 1200 basic words, the vocabulary in each lesson and all the sounds in American English?

4.1 Research question 1a

What is the underlying assumption of the role of phonics reflected in the textbooks?

Table 4.1 shows the results of the analysis of when the teaching of reading and

writing starts in relation to the teaching of speaking and when phonics is taught in each of the textbooks.

Table 4.1 When phonics, reading, and writing is taught

textbooks	Happy English (HE)	Joy English (JE)	Hello Darbie (HD)	New Wow English (NWE)	Magic Land (ML)	Go SuperKid (GS)
When learning to read and write starts	Book 1 Lesson 1	Book 1 Lesson 1	Book 1 Lesson 1	Book 1 Lesson 1	Book 1 Lesson 1	Book 1 Lesson 1
When phonics is taught	Book 2: After L/S/R/W practice of the main lesson content	Book 1: After L/S/R/W practice of the main lesson content	Book 2: After L/S/R/W practice of the main lesson content	Book 1: After L/S/R/W practice of the main lesson content	Book 1: After L/S/R/W practice of the main lesson content	Book 1: After L/S/R/W practice of the main lesson content

With respect to the onset of teaching reading and writing, all six series are consistent in introducing the teaching of written words in the first lesson of Book 1 when the teaching of speaking starts. This produces a fundamental difference between young Taiwanese EFL learners and English L1 learners: for the former, literacy acquisition in English does not build on their existing knowledge of the language. Learning to speak and to read in English is something that Taiwanese

learners have to do simultaneously. To a certain extent, the result allows the conclusion that phonics may not assume the role of a mediator between spoken and written language in the textbooks. However, considering the possible sequences (see Table 4.2) in which the teaching of the spoken and written form of the vocabulary and phonics can be conducted within a lesson, conclusions cannot be drawn without taking into account how exactly the teaching is meant to be conducted and what teaching process is involved according to the textbooks. Hence, teacher's guides were examined to further the investigation.

Table 4.2 Possible sequences for the teaching of the spoken and written words and phonics

S → Phonics → W	Phonics → W → S
S → W→ Phonics	W → S → Phonics
Phonics → S → W	W → Phonics → S

An analysis of suggested and implied procedure revealed a largely similar approach in all the textbooks. All the textbooks claimed to endorse a communicative approach, and a conversation pattern formed the backbone of each lesson. The first stage of teaching involved introducing key words through using picture cards that contained both the picture (the meaning) and the written word on the same side. Then the conversation was introduced and practiced orally followed by the presentation of the sentence pattern cards (written form). Various 'listen and repeat' exercises were used to reinforce learning. To assess the impact of such teaching, it is necessary to take into account the setting of a

typical lesson in Taiwan. In a typical classroom, during a lesson each student sits at their own desk with their own textbooks open to the page according to the progress of the class. What this implies is that any ‘listen and repeat’ exercise naturally involves the learners looking at both the written words and pictures in the textbook. The link between written words, their sounds and their meanings are established through repeated visual contact and exposure to aural repetition. In other words, all the written words are learned through a look and say whole word approach. Phonics does not appear to play any role in the process. Indeed, as Table 4.1 shows, although the teaching of written words begins in Lesson 1 Book 1 in all six series of textbooks, phonics teaching does not start until Book 2 in *Hello Darbie* and *Happy English*. In addition, instead of teaching phonics before the introduction of the key vocabulary to enable the newly learned letter sounds to play a role in the process, the phonics section in each of the textbooks is placed after the key content of the lesson. Phonics appears to be a separate skill training section of the lesson.

The fact that the teaching of written and spoken words start simultaneously indicates that learners do not have the prerequisite established oral repertoire for phonics to serve the same function as in English L1 literacy development. As the phonics section is separate from the key content of the lesson, neither is it used as a means of sounding out new vocabulary. There is no independent means by which learners can retrieve sounds of written words especially in the initial stage of learning. This raises the question of what exactly the underlying assumption of

the role of phonics reflected in the textbooks is. Although phonics does not play a role in the teaching of the key content, each of the textbooks seem to hold the prospect that learners can eventually use phonics to sound out and to spell written words, as reflected in their curriculum objectives. Indeed, without the existing oral ability, phonics can still be used to sound out words (i.e. as a pronunciation system). However, with the nature of English orthography and without the existing oral repertoire to confirm the choice of sounds, it is questionable how well phonics can serve as a pronunciation system.

In terms of spelling, phonics knowledge is as important for EFL learners as it is for English L1 learners. Nonetheless, when and how learners are trained to produce written words will ultimately affect the extent to which learners apply their phonics knowledge in written tasks. The textbooks were examined further to clarify when learners are expected to spell words, and just as had been the case with lesson structure and teaching procedures, great similarities were seen between publishers. In all the workbooks, distinctions between writing activities for year 3 & 4 learners and year 5 & 6 learners can be found. In all series, learners are required to match written words or sentences to their meanings (pictures) and to select a correct response to a sentence (e.g. linking ‘What’s your name?” to ‘My name is Eric.’) from Workbook 1. In other words, great demand is made on learners to recognize the meaning of written words (reading). However, very little demand is made on them to produce written words independently in the workbooks for year 3 and year 4 learners. In these workbooks, writing consists

mainly of either ‘trace’ or ‘copy’ activities related to key words or ‘fill in the missing words’ which can be performed via identifying then copying the correct words among a list of words provided. The most learners have to do related to phonics is to produce a missing letter in a word independently according to its sound. Activities that require learners to produce written words or sentences independently start to occur in all the workbooks for year 5 and year 6 learners. By then, learners are required to spell words or even produce sentences independently. The consistency across the six sets of workbooks seems to reveal a deliberate attempt on the part of the compilers to avoid overburdening learners with the demand to produce written words independently in the early stages of learning, suggesting an awareness of the consequences of such demand. However, it is not clear on what basis learners are considered capable of spelling words independently in year 5 and 6. Are they believed to have acquired sufficient phonics knowledge and skills to apply to spelling tasks or is it a decision based simply on cognitive maturity? None of the books provide an explanation for the decision. Analysis of the words that learners are required to produce in all the workbooks, however, showed that they include words under both the vocabulary for recognition and for production categories. Examination of the extent to which learners can apply the phonics knowledge they acquired to tackle the words in both categories may help to clarify the decision and it is an issue that forms part of the investigation of research question 1c. Examination of the workbooks makes it clear that the only route by which learners can increase their familiarity with the spelling of the key words in the workbooks is through tracing and copying

activities.

In summary, the analysis of the student book, teacher's guides and workbooks indicates that rather than treating phonics as a mediator between spoken and written language, phonics is taught as a separate skill that learners can potentially use as a pronunciation system and as a spelling strategy. However, it is not considered as a skill that learners should possess before they learn to read and spell and therefore is not engaged to play a significant role in the teaching / learning process during the four years of primary school English education. Based on the assumption that teaching of the textbooks is carried out following the procedures intended by the textbook compilers, these findings have several implications. First, for Taiwanese EFL learners, literacy acquisition follows a very different mechanism from that of English L1 learners. Written words are not 'recognised' through a system of decoding, but rather are learned and recognized as a whole unit. Because of the nature of the learning process, it is questionable how relevant phonics is to reading. In addition, learners are encouraged to memorize the spelling of words through repeated tracing and copying. Such acquisition processes greatly resemble those by which Taiwanese learners gain their familiarity with Chinese characters. Indeed, it appears that L1 learning practices are promoted in the EFL classroom in Taiwan. According to sociocultural theory, many artifacts carry traces of their social influences (Johnson, 2009): the design of the workbook activities reflects what the Taiwan-based textbook compilers perceive to be effective ways of acquiring printed words. Despite the

fundamental differences between English and Chinese, L1 literacy acquisition experiences appear to play a crucial role in shaping the view of the compilers of how literacy teaching should be conducted. Whether conscious or not, the decision-making behind the arrangement of the textbooks, teaching procedures and workbook activities appears to reflect local social cultural influences.

It is beyond the present research to judge whether such influences may enhance or hinder EFL acquisition for young Taiwanese learners. What is clear, however, is that they may have a great impact on the effect of phonics instruction, especially on the efficacy with which phonics is exercised in spelling. Once learners are accustomed to learning through rote visual memorization, despite knowledge of the sound-letter correspondence, there is a high risk that they will become unresponsive to strategy training at later stages of their learning. The fact that the MoE places phonics instruction under the teaching of reading and emphasizes learners' ability to use phonics to sound out and to spell words suggests that phonics should play a role in learner's literacy acquisition. However, the result of the textbooks analysis does not indicate a strong link between the role of phonics and Taiwanese EFL learners' literacy acquisition. To achieve the objectives set out by the MoE, it appears that textbook compilers need to take into account the influence of literacy instruction on learners' learning strategies.

4.2. Research question 1b

How is phonics taught?

Table 4.3 lists the results of the analysis of how phonics is taught in the six textbooks.

Table 4.3 How phonics is taught in each of the textbooks

Items	**HE**	**JE**	**HD**	**NWE**	**ML**	**GS**
Direct teaching of sound-letter relationships	✓	✓	✓	✓	✓	✓
Teaching framework	✓	✓	✓	×	✓	✓
Level of progression	×	×	×	×	×	×
Regular word building activities (assembling sounds to make words)	×	×	✓/ ×	×	×	×
Regular spelling practice (segmenting sounds and writing down the letters)	×	×	×	×	×	×
Regular use of chants or rhymes	✓	✓	✓	✓	✓	✓
Percentage of Phonically regular words selected for practicing the rules	48%	75%	41%	76%	64%	61%

Positive results

As shown in table 4.3, all the textbooks endorse direct teaching of sound-letter relationships, use chants or rhymes to reinforce learners' phonics knowledge and skill and, except for NWE, adopt a similar teaching framework. However, although all the textbooks endorse direct teaching of phonics, four of the six textbooks also incorporate the teaching of rime units. Especially in NWE, phonics is predominately taught through the use of rime units. According to advocates of large unit theories, children's phonological awareness at syllable or rime level is more readily available and can serve as a basis for learners to make inferences for a more fine-grained letter to sound correspondence when they enter a more advanced level (Goswami & Bryant, 1990). The fact that the majority of the textbooks use rime units to practice sound-letter links at the early stage of phonics teaching may suggest that the textbook compilers were conscious of the potential difficulties young learners may face processing English at phoneme level. However, as the rime units are introduced immediately after the teaching of the sounds of *A* to *Z* in all four textbooks, it is more likely that rime units are used as a basis for initial word building practice. In other words, they are used to prepare learners for assembling sounds at phoneme level at a later stage.

With the exception of NEW, a similar teaching framework was found amongst all the textbooks (listed in table 4.4). In these textbooks phonics teaching starts with the sound of a-z followed by the consolidation of the vowel and consonant phonemes or vice versa, long vowel phonemes and consonant

clusters or vice versa, then other vowel phonemes and/or other consonants. It is not clear what criteria were involved in the sequencing of the rules to be taught; however, as reflected in the framework list, it is evident that the textbooks placed strong emphasis on the distinction between similar consonant phonemes by grouping them together (e.g. *b/p, d/t, g/k, v/f, z/s, m/n)*. In general, although differing in the sound-letter links included in the curriculum, the framework of most of the textbooks follows the general direction of that in the UK NLS framework.

4.4 Teaching framework of the textbooks

HE	● *a-z* ● Consonants *(b, p, d, t, g, c/ck, q, k, f, v, s, z, m, n, l, r)* ● VC rime: short vowel phonemes *(an, at, ed, en, ig, in, ot, ock, ...)* ● Long vowel phonemes *(a_e, ai, ay, e_e, ea, ee, i_e, igh...)* ● Consonant clusters *(sh, ch, tch, th, th, wh, ph, ck, ng, nk, bl, gl,..)* ● Other vowel phonemes *(ar, er, ir, ur, or, oo, oo, oi, oy, ou, ow)* ● *soft c, soft g, -le*
JE	● *a-z* ● Short vowel phonemes *(a,e,i.o.u)* ● Consonants *(b, p, d, t, g, k, v, f, z, s, m, n, r, l)* ● Consonants clusters *(sh, ch, ng, nk, wh, ph, th, th)* ● Long vowel phonemes *(a_e, ay, ai, ee, ea, i_e, ie, oa, o_e, u_e...)* ● Consonant clusters- blends *(bl, cl, fl, gl, pl, br, cr, dr, fr, gr, pr, tr, sk,* ● R-controlled vowels *(ar, ar, er, er, or, or, ir, ur, ar, er, or, ir, ur)* ● Other vowel phonemes *(au, aw, oo, oo, ou, ow, oi, oy)* ● *Soft c, soft g* ● Silent letters *(k, w, gh, l, b)*
HD	● *a-z* ● *Short vowel phonemes (a,e,i.o.u)* ● *Consonants (t, d, m, n, c, g, p, b, sh, s, f, v, l, r, wh, w, sh, ch)* ● *Short & Long vowel phonemes (a_e, a, i_e, i, o_e, o, u_e, u)* ● *Consonant clusters (sm, sp, j, ch, gr, gl, pr, br, bl, pl)* ● *Long vowel phonemes (a_e, ai, ay, ee, ea, i_e, ie, y, o_e, oa...)* ● *R-controlled vowels (ir, ur, er, or)*
NWE	● *a-z* ● *VC rime: short vowel phonemes (-ad, -at, -en, -et, -ig, -it, -op...)*

	● *VC rime: long vowel phonemes a,e,i (ake, -ate, -eve, -ete, -e...)* ● *Consonant cluster (th, -th)* ● *VC rime: long vowel phonemes , o, u (-ow, -oat. –ue, -uit)* ● *Consonant cluster (ch, -sh, -ck)* ● *VC rime: V-o (ook, -ool, -oon, -ow, -ouse, -oi, -oil)* ● *Vowel phonemes (-y, -y, -aw, -au)* ● *VC rime: C-r (ir, -ur, -ar, -ar, -ore, -ork, -orn, -er, -or, -air, -ear)* ● *VCC rime: C-l (ell, elt, -alk, -all, -ill, -old)* ● *VC rim: V-i (-ind, -ine)*
ML	● *a-z* ● *Consonants (p, b, t, d, c, g, s, z, f, v,r ,l)* ● *Vowels (a, e, i, o, u)* ● *VC rime (-at, -ad, -am, -an, -ed, -et, -en, -im, -id, -ig, -ox...)* ● *Consonant cluster (ng, ck, ch, sh, th, th)* ● Long vowel phonemes *(a_e, ai, ay, ee, e_e, ea, i_e, ie, oa...)* ● *Consonant cluster-blends (br, dr, fr, pr, tr, gr, bl, cl, fl, pl, ...)* ● *R-Controlled vowels (ar, er, ir, or, ur)*
GS	● *a-z* ● *VC rime: V-short vowel phonemes (at, ad, -et, -ox, -ot, -it, -ig...)* ● *Long vowel phonemes (a_e, ai, ay, o_e, oa, ow, i_e, ie, y, ea...)* ● Consonant cluster *(sh, ch, th, th)* ● *Other Vowel phonemes (oo, oo, ow, ou, oi, oy)*

Negative results

On the negative side, there is no perceptible level of progression with the practice of decoding or encoding skill in all six textbooks, neither do any of them have regular word building and spelling activities. The fact that most of the textbooks use rime units for practicing word building at the initial stage should suggest that textbook writers were aware of the importance of phonically regular words for practicing sound-letter links. However, not all the words that the textbooks selected to demonstrate the rules are phonically regular for the learners. NWE and JE had the highest percentage of phonically regular words in the phonics section (76% & 75%) and HD the lowest (41%). However, NWE had a relatively high percentage of phonically regular words mainly because of the use of rime

units throughout the phonics section. In general, all the textbooks follow the procedure of introducing sound-letter correspondences, practicing saying words that contain the rules, and then practicing a chant. Initially, all the textbooks focus predominately on the identification of sounds at the initial position but whenever possible, all of them also provide words that contain the correspondences at the initial, medial and final position. However, in terms of progression, the identification of phonemes in different positions is introduced simultaneously and the words used to illustrate the rules do not exhibit particular structure and are of various lengths even at the initial stage of phonics teaching. To a certain extent, the provision of phonically regular words to illustrate phonics rules can provide learners with word building practice. However, although all the textbooks consciously choose shorter words to illustrate the rules, the statistics show that they could not all be sounded out with the phonics rules learners have learned. Except for HD, which has a ‘Let’s sound out’ section designed specifically to engage learners in sounding out phonically regular CVC words in various combinations, no other textbooks focused specifically on this aspect of phonics teaching. Even with HD, however, the section stopped at Book 4 and stayed at the level of CVC words.

There is an obvious absence of spelling practice in the phonics section of all six textbooks. Throughout the series, all the spelling practice remains at the ‘fill in the missing letter’ level in all six textbooks and their associated workbooks. Learners are required to choose amongst a list of relational units to complete words that

have parts missing by either looking at the picture clues or listening to the teacher/CD. There appears to be more focus on learners' ability to associate the pictures (meaning) to the example words than the ability to spell the words independently. However, as revealed in the workbooks, learners are required to spell the vocabulary of the main lesson, which often bears little relationship to the phonics rules taught.

General discussion

The results of the textbook analysis show that phonics teaching in Taiwan differs in several aspects from that reflected in the UK NLS framework, specifically with respect to level of progression and the amount of word building and spelling practice. Although the NLS framework has been shown to work, what works for EL1 learners may not necessarily work for EFL learners as fundamental differences exist between these two groups. For instance, the NLS framework is designed for learners who start at the reception year (age 4). As Taiwanese EFL learners are typically older (age 8-9) when the official phonics teaching starts, it is not clear whether EFL learners require the same systematic progression to acquire phonics knowledge and skill. Nonetheless, as EFL learning involves the acquisition of a completely new language, a step by step guidance may prove equally beneficial to Taiwanese EFL learners.

The fact that most of the textbooks placed strong emphasis on learners' ability to differentiate similar consonant phonemes (*b/p, f/v, etc.*) indicates that other considerations may be involved in the design of the framework. It may be that phonics is viewed as a pathway to the acquisition of English sounds and hence facilitating learners' awareness of similar English consonant phonemes constitutes a major part of the phonics program. However, as the Chinese phonetic symbols (ZYFH) share the same sounds as many of the English consonant phonemes (see Appendix 1.2) it is questionable whether Taiwanese learners require special focus on these distinctions. On the other hand, as the Chinese language does not make a distinction between long and short vowel phonemes, this aspect of English phonemes may require more emphasis. None of the textbooks, however, make the ability to distinguish between similar vowel phonemes a focus for practice. It is possible that the fundamental differences between the sound systems of the two languages and learners' existing knowledge of sounds and their abilities to distinguish them have not been considered in the process of designing the textbooks. Sociocultural theorists emphasize the importance of taking into account what learners already know both cognitively and socially when making pedagogical decisions (Cole, 1996; Rogoff, 1990 & 2003). A consideration of the resources young Taiwanese learners bring into the English classroom may indeed allow the creation of teaching materials that better suits the learners' needs as well as a more effective and efficient use of limited class time.

Nonetheless, the efficacy of any program cannot be judged without taking into account the curriculum objectives. In the UK NLS framework, the objectives of phonics teaching are set as: ‘Phonic knowledge and skills should be taught and practised to a level where decoding and spelling using phoneme–grapheme representations become habitual and operate at the level of ‘tacit knowledge’. To ensure that the national targets are met, the selection of the rules, the level of progression and decoding and encoding activities were all carefully planned and researched. Both the knowledge and skill aspects of phonics teaching receive equal attention. The design of its phonics program clearly reflects the underlying objectives.

Similar to the NLS framework, the attainment indicators set in the Taiwanese official curriculum guidelines state that learners should possess phonics knowledge and should ‘make attempts’ to sound out and spell words using phonics rules. The MoE does not specify the level of achievement in their application of phonics skill. However, as learners need phonics knowledge as well as skill to be able to ‘attempt’ at sounding out and spelling words, the application of phonics knowledge should constitute an essential part of a phonics program. Although all the textbooks provide a framework for teaching, the absence of regular word building and systematic practice of encoding skill means that the teaching stays predominantly at the knowledge level. In other words, learners may acquire phonics knowledge but without much practice of the associated skill of segmenting and assembling the phonemes. It is true

that many of the words the textbooks provided to illustrate the rules were phonically regular, however, to a certain extent, efficacy depends on whether learners were encouraged to make attempts to sound out the words independently. The teaching procedures presented in the teacher's guides for all six textbooks place teachers at the centre of instruction. Teachers are expected to introduce the sound-letter correspondences and then read out the example words for learners to repeat. Such a procedure may not necessarily involve any processing demand on the learners. Consequently, learners might not have a chance to develop their phonological processing skill at phoneme level. However, even if learners are given opportunities to sound out words independently, they may be handicapped by the significant proportion of phonically irregular words used to illustrate the rules. It is evident that the decision of the selection of words did not consider learner independence. What the result reflects is a culturally influenced view of young learners and self-teaching. In Taiwan, it is generally believed that young learners are incapable of self-teaching. They are characterized as dependent and passive. Thus, all the knowledge the learners need to learn is taught explicitly and repeatedly reviewed in the classroom where independence is neither required nor nurtured. The teacher's role as authority is greatly emphasized and this structures the teaching events and practices. Drawing on the notion that cognitive development arises as the consequence of socially and historically directed activity (Vygosky, 1978), invitably this view of young learners and self-teaching limits learners' opportunity to apply learned phonics knowledge

in and outside the classroom independently and affects the efficacy of phonics instruction.

It has to be said, however, that the teacher's guides might not necessarily reflect actual classroom implementation by the teacher. The structure of the phonics program, nonetheless, may still have an impact on the general direction of phonics teaching. Any phonics programs designed for Taiwanese EFL learners needs to take into account the fundamental differences between EL1 and EFL learners as well as EFL learners' knowledge repertoire acquired through L1 learning. Phonics teaching may well be a pathway to the acquisition of English phonology; nonetheless, it is also important to consider the nature of English orthography as well as the ultimate aim of phonics instruction. Textbook compilers may need to examine the efficacy of phonics programs in other countries if informed decisions are to be made on how best to achieve the teaching objectives.

4.3. Research question 1c

To what extent do the phonics rules taught in the textbooks prepare learners for the acquisition of the 1200 basic words, the vocabulary in each lesson and all the sounds in American English?

Appendix 4.1 shows the result of the comparisons between phonics rules in the textbooks and the rules inherent in the 1200 words. Table 4.5 lists the percentage of the rules covered in each set of the textbooks.

Table 4.5 Percentage of rules covered in the textbooks

Textbook	Total number of rules	Percentage
HE	81	36.8 %
JE	91	41.3%
HD	64	29 %
NEW	48	21.8 %
ML	69	31.3%
GS	47	21.3 %

As the table indicates, great disparities were found among the textbooks in the number of rules taught in four years of English education. *Joy English* teaches the highest number of rules, covering 41.3% of the sound-letter associations needed for sounding out the 1200 basic words, while *Go SuperKids* taught only 21.3% of the rules. Such a result suggests that how much phonics knowledge learners acquire is strongly influenced by the textbook they use, which may partly explain the discrepancies between learners' phonics knowledge by the time they enter junior high school. It cannot be denied, however, that as the exposure to printed words increases, learners may be able to figure out more sound-letter associations without being taught.

Nonetheless, as learner ability differs, it is hard to judge how many rules each individual learner is able to infer.

In general all the textbooks failed to cover the majority of the rules governing the 1200 basic words. Considering the limited time available for phonics teaching, such an outcome is understandable and yet it does indicate the limitations and challenges facing learners if phonics is the only means of retrieving word sounds outside classroom teaching. If the ability to tackle the basic 1200 words using phonics is the ultimate target, then to maximize the effect of phonics instruction within the time scope, it is logical to assume that the selection of rules take into consideration the frequency of occurrence of the rules. Although each set of textbooks covers more than 50% of high frequency rules (rules that have more than twenty occurrences in the 1200 words), even the series that covered the highest percentage of the high frequency rules (*Happy English)* covered only 73% (Table 4.6). Analysis of the rules that are included in the textbooks also reveals that not all the rules are in the list of high frequency rules. In fact, as Table 4.6 and 4.7 show, although the number of rules covered in *New Wow English* and *Go Superkids* are amongst the lowest, the majority of their rules are high frequency. On the contrary, though *Joy English* has the highest number of rules, only 44% of the rules are high frequency.

Table 4.6 Percentage of high frequency rules covered in the textbooks

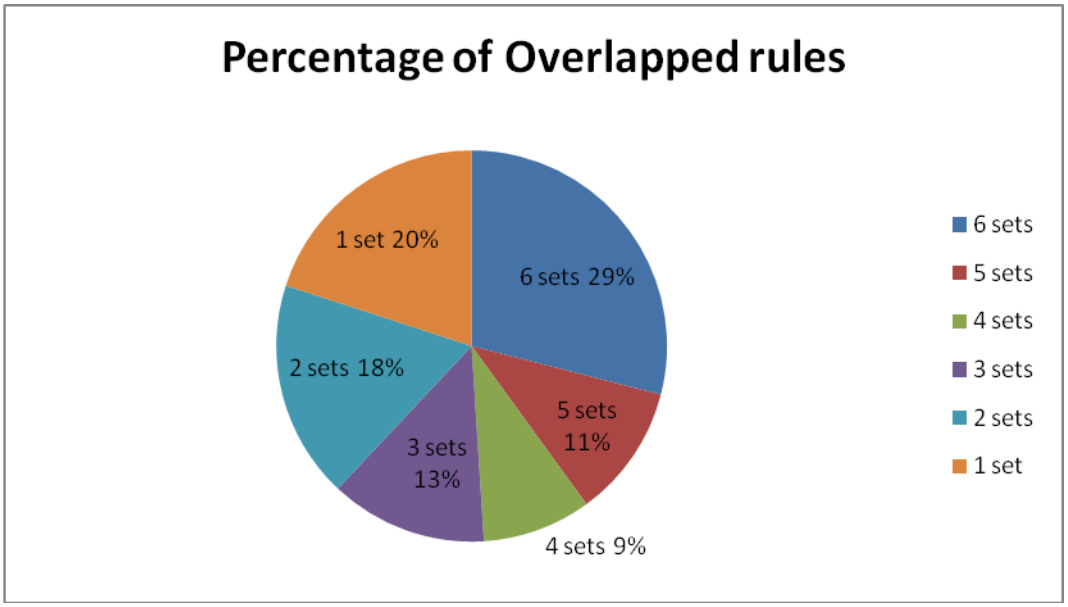
Textbook	Percentage
HE	73%
JE	71%
HD	68%
NWE	66%
ML	67%
GS	59%

Table 4.7 Percentage of the rules covered in the textbooks that are high frequency.

Textbook	Percentage
HE	51%
JE	44%
HD	59%
NWE	77%
ML	55%
GS	70%

A look at the distribution of the rules in the textbooks (Figure 4.1) further reinforces the evidence that different decision making processes might be involved in the selection of the rules to be taught in each set of textbooks. Of all the rules, only 29% are shared by all the textbooks while 20% of the rules are unique to one textbook.

FIGURE 4.1 Distribution of phonics rules across the six sets of textbooks



None of the textbooks provide an explanation for the selection of the rules and neither does the result of the analysis provide clues to the rationale behind the selection. What seems to be evident, however, is that none of the textbooks covers sufficient rules to enable learners to tackle (i.e., to segment and to spell) the majority of the 1200 basic words and that neither do they set the decoding of the 1200 basic words as the ultimate aim of phonics teaching. What then determines the selection of the rules in the textbooks? In order to discover whether the selection of the rules is determined by the vocabulary of the lessons, the extent to which learners can use the phonics rules accumulated through the lessons to sound out words in each lesson was examined. The result is shown in Appendix 4.2 with the words that can be sounded out in bold. Table 4.8 lists the percentage of phonically regular words categorized as vocabulary for production and vocabulary for recognition in each set of the textbooks. The result shows that consistent with the previous analysis,

disparities exist across the textbooks. While 24% of vocabulary for production in *Happy English and Magic Land* can be sounded out with its phonics rules, the same applies to only 7% of the vocabulary in *Go SuperKids*. With vocabulary for recognition, the difference is even more significant with the highest (*Happy English)* at 46% of the vocabulary and the lowest only 11% (*Hello Darbie*). It may appear that some of the textbook writers take into account the phonics regularity of the vocabulary in selecting and arranging phonics rules to be taught in each lesson more than others. However, because of the low percentage of phonically decodable vocabulary across the textbooks in general, it is doubtful whether phonic regularity of the vocabulary contributes to the decision behind the selection of the phonics rules. Further support for this observation can be found by comparing the percentage of phonically regular words in vocabulary for production and for recognition. If phonics regularity is taken into account, then the result should demonstrate a higher percentage of phonically regular words in the vocabulary for production. This is only true however in *Hello Darbie* and *Magic Land*; in the remainder, a higher percentage of phonically regular words are found in vocabulary for recognition. In general, the great majority of the vocabulary in the textbooks cannot be successfully decoded using the phonics rules taught.

Table 4.8 The percentage of words that can be sounded out using the phonics rules taught

	vocabulary for	vocabulary for

	production	recognition
HE	24%	46%
JE	22%	31%
HD	14%	11%
NWE	22%	25%
ML	24	18%
GS	7%	14%

All the textbooks covered the majority of the 41 phonemes in American English (Table 4.9). When comparisons are made of the total number of phonics rules in the textbooks with the number of phonemes the rules represent, signs of the conscious efforts on the part of the textbook writers to include as many phonemes as possible become evident. For instance, although *New Wow English* covers only 48 phonics rules, the rules represent 39 of the phonemes. It appears that instead of selecting rules on the basis of its frequency of occurrence, textbook writers are more concerned with including a variety of different phonemes when selecting phonics rules. If the content of a textbook is a reflection of what is in the mind of the writers, then the result suggests that the writers of the textbooks intend phonics to be a means by which learners learn the sounds of the language. However, despite this, none of the textbooks cover all the sounds in American English in four years of primary school English education.

Table 4.9 Phonemes and phonics rules covered in the textbooks

	The number of	Percentage	Phonemes that are

	phonemes covered in the textbooks		covered by all the textbooks
HE	39	95%	/b/, /k/, /d/, /f/, /g/, /h/, /j/, /l/, /m/, /n/, /p/, /r/, /s/, /t/, /v/, /w/, /z/, / ð/, /θ/, /dʒ/, /i/, /ɪ/, /e/, /ɛ/, /o/, /ɔ/, /ʊ/, /a/, /æ/, /ʌ/, /ɑɪ/
JE	39	95%	
HD	39	95%	
NWE	39	95%	
ML	37	90%	
GS	32	78%	

The results of the analysis indicate that none of the textbooks include a sufficient number of phonics rules to enable learners to tackle the majority of either the basic 1200 words or the main vocabulary in each lesson. If the expectation is for learners to apply phonics knowledge and skill in the process of learning then they must know as many of the rules as possible. The fewer rules learners know, the less reliable phonics will appear as a means to retrieve word sounds. Since the textbooks adopt the ‘look and say’ whole word approach in the teaching of the main vocabulary, it can be argued that the learners do not require phonics knowledge to retrieve the sounds of words. However, the presupposition is that every learner receives sufficient exposure and practice in the classroom. As learner ability varies, it is questionable whether such a presumption is valid. Without an independent means by which learners can reliably retrieve the sounds of words, it is highly plausible that the learners for whom classroom exposure is not sufficient for the acquisition of the vocabulary will develop their own system of marking the sounds of words which may or may not accurately reflect the actual sounds of English. In

spelling, the lack of sufficient phonics knowledge may cause the learners to be over-reliant on non-phonics strategies.

The fact that the textbooks cover a very limited number of all the rules needed also revealed the challenges and complications of regarding phonics as a pronunciation instruction approach. For phonics to serve the purpose satisfactorily, the inclusion of a large number of rules is required. However, as primary school learners are still at the foundation building stage and as the communicative purpose of language is greatly emphasized in the national curriculum guidelines, it is questionable whether textbook writers can afford to devote a large part of each lesson to phonics in the time available and still fulfill the other teaching objectives. To prevent learners from relying solely on classroom teaching as the only way of learning word sounds, it is crucial that they are provided with an alternative system by which they can record and retrieve sounds of new words independently at early stages of learning.

Before the inception of primary school English education, beginning learners in junior high school were taught K.K. phonetic symbols which represent the 41 American phonemes along with the skill to segment and assemble the phonemes as a pronunciation tool. As there are only 41 phonemes, the time required for learning K.K. symbols is substantially shorter than learning an adequate number of phonics rules. The MoE does not explain the exclusion of the teaching of phonetic symbols from the primary school English curriculum.

The results of this textbook analysis suggest that using the phonetic symbols may be a more efficient way of gaining access to word sounds than engaging in an extensive phonics programme.

4.4 Summary findings and conclusion

The textbook analysis aims to provide information on the underlying assumption of the role of phonics reflected in the textbooks, how phonics is taught and whether phonics taught in the textbooks enables learners to acquire 1200 basic words, the vocabulary in each lesson and all the sounds in American English. With respect to the underlying assumption of the role of phonics reflected in the textbooks, all the textbooks start the teaching of written and spoken English at the same time, indicating that phonics is not taught as a mediator between spoken and written language. In addition, as phonics appeared in all the textbooks as a separate section, placed after the key content of the lesson, neither is it used as a means of sounding out new vocabulary. The fact that the whole word approach is used to teach vocabulary further confirms the limited use of phonics in the teaching process. As for how phonics is taught, although endorsing the direct teaching of sound-letter relationships, none of the textbooks provide a systematic progression with the practice of decoding or encoding skill and neither do any of them have regular word building and spelling activities, suggesting that the teaching stays predominantly at the knowledge level. In addition, not all the words that the

textbooks selected to demonstrate the rules are phonically regular for the learners, which may potentially handicap learners who make attempts to sound out the words. With regard to whether phonics taught in the textbooks enables learners to acquire 1200 basic words, the vocabulary in each lesson and all the sounds in American English, the majority of sound-letter correspondence rules required for sounding out the vocabulary in the textbook and the 1200 basic words were not taught and neither do any of the textbooks cover all the sounds in American English.

The results of this analysis appear to illustrate how the cultural embededness of textbook compilers influences the presentation of the phonics content in the textbooks. Hence, it is important to understand how this affects the presentation and what impact this may have on learners' learning. Many aspects of the textbook design reveal an underlying assumption of how language teaching should be conducted. Despite the inclusion of a novel approach to literacy instruction (phonics), the traditional model of literacy teaching, i.e. a whole word approach with the simultaneous exposure to spoken and written input and a teacher-centered instructional model, is promoted through the textbook design. It seems therefore that although phonics material is included in the textbooks, its presentation does not particularly encourage its use in students' literacy learning. One of the major issues is that phonics is not integrated into the other lesson material. Hence, because written-word learning occurs in the other lesson material, the

relevance of phonics in this process is not made clear to the learner, and perhaps also the teacher. The textbooks used in Taiwan state schools are locally produced and the textbook presentation of phonics appears to reflect the local social context. This in turn plays a significant role in determining the efficacy of phonics instruction on young Taiwanese learners' EFL literacy learning.

Chapter 5 Teacher Interviews

This chapter presents the results and discussion of the teacher interviews. The teacher interview aimed to gather information on the teachers' knowledge, perceptions, beliefs and attitudes related to phonics teaching and English literacy as well as how the teachers carried out classroom instruction. It also served to complement and extend the findings of the textbook analysis. The range of views collected in the interviews also provided contextual information about the student participants and guided the construction of the student questionnaires. The specific questions the teacher interview sought to answer are listed below.

R2. Teachers' knowledge, perceptions, beliefs and attitudes related to phonics teaching and English literacy

a) What are the teachers' perceptions of phonics? How do they perceive the relationship between K.K. and phonics? How do their perceptions affect their attitudes towards phonics teaching?
b) How and when do teachers think phonics should be taught?
c) What are the teachers' views on when best to start the teaching of reading and writing in relation to the teaching of listening and speaking?
d) How do the teachers perceive the relationship between phonics and self-teaching? What are their opinions on young learners' ability to self-teach?

R3. The role of phonics in the teaching process and the influence of social/

educational context on its efficacy

a) How do the teachers conduct a lesson? How is written and spoken vocabulary taught and does phonics play a role in the process?
b) Are learners given opportunities to engage in self teaching practice?
c) How is vocabulary tested and spelling mistakes scored and how might that affect students' learning strategies?
d) To what extent are the teachers aware of the efficacy of phonics instruction on their learners? Are they satisfied with outcomes?

5.1 Research question 2a

What are the teachers' perceptions of phonics? How do they perceive the relationship between K.K. and phonics? How do their perceptions affect their attitudes towards phonics teaching?

Results

Interview questions 1-8 were designed to elicit information on issues relevant to research question 2a. Because understanding how the teachers define phonics is crucial in interpreting their teaching practices, it serves as the opening question. The teachers' responses revealed great similarities in their perception of phonics. Albeit with small variations in the terms they used, all eight teachers described phonics as a system that teaches the sounds of letters and enables learners to 'read' (or as some teachers put it 'sound out' or 'pronounce') words independently and, though not in their direct responses to the question, it was evident throughout

the interviews that the sounds of *A* to *Z* were regarded as the most basic and essential part of phonics instruction.

The fact that phonics allows a direct link between sounds and letters without having to rely on symbols was viewed by all teachers as the main reason why they favor such an approach. Three out of the eight teachers also identified the importance of sound-letter knowledge in spelling. However, despite speaking favorably of phonics, all teachers were well aware of its limitations, as the following extracts demonstrate:

> *'It enables learners to see, say, a letter 'a' and link it directly with the sound /æ/. But it really isn't all that useful; there are a lot of irregular words. But at least, it helps a lot in word spelling' (T6)*

> *'I would say it's a system that allows students to see a word and sound it out without having to rely on symbols. It's a general way of pronouncing words. Although there are exceptions, it can be used on about 80 percent of English words…and of course, vice versa, it can also help students to memorize word spelling. It's a useful system for sounding out words.' (T8)*

This awareness was also reflected in their responses to questions 2, 3 and 4. In response to question 2, regarding their expectation of learners who have learned phonics, all the teachers indicated that they hoped that learners would be able to

apply their phonics knowledge to pronounce words. Among them, three teachers also mentioned their hope for learners to apply phonics knowledge in spelling. However, reservations regarding the efficacy of phonics were also evident in some teachers' replies to the question:

'*…basically they need to have some idea of how a word sounds…sometimes, it may not be accurate but at least it will not be too far off.*' (T3)

'I hope they can sound out the words they see. Of course, they can't do it with 100 percent accuracy but at least I hope they can more or less figure out what may be the sounds of the words; they can make the attempt.' (T8)

When questioned directly on aspects of phonics they considered inadequate, a number of problems were identified. All eight teachers noted that because of the existence of irregular and exceptional words, phonics could not be applied to all English words, and that it therefore did not always help learners to pronounce words accurately. Three of the teachers explicitly stated that phonics could only be applied to 80 percent of English words. One of the eight teachers mentioned the problem of identifying stress patterns, one believed that phonics only worked well with short words, one found vowel sounds particularly problematic and one mentioned that phonics did not really make a distinction between vowel sounds. However, despite the noted deficiencies in phonics, all the teachers interviewed maintained a strong endorsement for teaching phonics. As T6 and T8 stated:

"*Because it is highly promoted, I feel that it's an ability that learners must have…at least at primary school age I just feel it seems to be a trend, so students should learn it… it doesn't matter if they make mistakes as long as they try*." (T6)

"I think because some children will give up immediately when they see new words they can't read. But if they are willing to try to read out new words, phonics will surely help them. At least, if they read a word wrongly, you can correct them and they will remember the words and the sounds better." (T8)

These responses reflected the teachers' preoccupation with phonics as a mediator between the pronunciation of a word and its printed form. Even in their responses to the question on their perception of the relationship between phonics and reading, six out of eight teachers immediately interpreted 'reading' as 'reading out words'. After clarification, all eight teachers made it clear they believed that phonics is essential in helping learners to read out words. In reading for meaning, however, the majority of teachers believed that phonics did not play a significant role. T3 stated:

"*I think once learners have learned phonics, they will have fewer obstacles in reading out words. I always assume when students read for meaning, the brain might actually activate the sounds as well even if the words aren't read out…if you know phonics, then this process will*

not be interrupted. The process of reading will be more fluent…but I guess you aren't necessarily able to get the meaning if you have not learned the words. So…honestly, I think phonics is essential in helping learners to read out words but I am not sure about its relevance to reading."

Two of the teachers, however, revealed knowledge of the potential relevance of phonics to reading comprehension in their responses:

"When I was on a teaching course, a professor asked us the same question. She told us that she didn't advocate phonics because she thought it was meaningless. She used her daughter as an example. Her daughter was educated abroad when she was young and her schema had a lot of spoken vocabulary…that is, she knew the English names of many things, so when she learned words such as 'bat, mat, cat' she naturally knew the meaning. The professor believed that this should be the right order; that you should have some knowledge before learning English otherwise it messes things up. But it seems to me this is a bit too extreme… I think when children read, especially books for children, there are pictures there to help comprehension. They may be able to figure out the meanings as well; the context may also provide a clue…Umm I think if they are beginning learners, because what they need to read is not too difficult, phonics is very

useful. But once they start reading more difficult books, they need to rely on a dictionary or be taught by a teacher in order to understand the content. Only sounding out words won't help in understanding the meaning because there will be few pictures or none at all." (T6)

"I think phonics helps in learning to read because we are still exposed to more spoken English than written. If you have heard someone say 'I'm sorry', then when you see the word 'sorry' and are able to sound it out, you might be able to link it to the meaning. So, I think it is of some help… if it's a word or expression they've never heard, then what phonics can do in reading is very limited." (T8)

The teachers' perception that the main function of phonics lies in its role in providing learners with access to word sounds was also revealed by their description of how phonics and K.K. differ (Q5). All the teachers viewed both K.K. and phonics as a tool to help learners to pronounce words while the main difference identified was that K.K. has concrete symbols and phonics has rules. As T3 stated; "In reality, I think learning phonics is learning K.K. The only difference is that in phonics we don't tell learners the symbols for the sounds." However, as revealed in their responses to prior questions, not all the teachers defined phonics simply as a pronunciation system; its additional function in spelling was also well-acknowledged. When comparing the efficacy of the two methods of gaining access to word sounds, however, all eight teachers believed

that K.K enables learners to pronounce words more accurately and that it can therefore be used to compensate for learners' difficulty in reading longer and irregular words. The use of K.K. was also linked to the use of a dictionary and hence self-teaching by three of the teachers. Nonetheless, despite their apparent awareness of the benefits of teaching K.K., all the teachers believed that although K.K. should be taught, it should only be taught to older learners and only after phonics has been taught, demonstrated by their answers to whether K.K. should be taught to primary school learners (Q6). Of the eight teachers, five of them indicated that K.K. could be taught to year 5 or 6 learners if the teachers believed that learners are ready for it and three of them believed that it should only be taught in junior high school. A range of reasons were given to support their position but the main reason cited by all teachers was that K.K. consists of symbols which may potentially confuse younger learners and add to the burden of learning. Because of the symbols, K.K. was regarded in general as a more difficult and complicated approach to pronunciation, as is shown by the following extracts:

> *"Because really, K.K. is more difficult. Because our children have to learn the alphabet, capital letters plus small ones, that's 56 symbols. With their sounds on top, it's a lot. If they have to learn another system, they won't be able to link the sounds with the symbols properly. So, I think the teaching of K.K. should wait until they are very familiar with all the alphabets and phonics rules. Then the teaching can be extended to K.K. so that they won't mix up the symbols." (T1)*

"Phonics is good because children only need to remember the sounds; they can see a word and link the letters to the sounds. But K.K. is another system. When a learner sees the symbol /e/, he might mistake it as a letter 'e' when in fact it's a sound symbol. It's another set of symbols. So I think phonics is easier; it is less of a burden to learn for students." (T4).

The fact that phonics enables a direct link between sounds and letters was also part of the reasoning for teaching phonics first:

"Um… to be honest, I rarely think of what phonics is…I suppose K.K. is like our Zhu-Yin-Fu-Hao in that once you know the symbols, you can read words but you still have to memorize the characters. I think even if you are very good at K.K. you still have to learn how words are spelt and you also have to rely on a dictionary to find out which symbols go with which words. I think phonics allows a more direct link between words and sounds." (T5)

Contextual factors also contributed to their belief that K.K. should not or need not be taught to primary school learners. Two of the teachers indicated that only high achievers in primary school can cope with K.K and that students have already learned K.K. in private institutes. One of the teachers stated that as primary school learners can easily get assistance from teachers, there is no demand for self-teaching, and hence no need for K.K. Two of the teachers, however, admitted that learners may be able to figure out the sound-letter links if K.K. is used over

time and that the use of these symbols may enable learners to distinguish between long and short vowel sounds. Nonetheless, the reluctance to teach young learners K.K. persisted. Prior to the inclusion of English in the primary school curriculum, K.K. had been taught to junior high school beginning learners as a tool of pronunciation and as a means for learning all the sounds of English at an early stage of English learning, yet none of the teachers questioned thought that K.K should be taught to beginning learners in primary schools. Question 6 asked teachers whether they considered knowledge of the sounds crucial to primary school beginning learners. All the teachers' immediate responses to the question indicated that they viewed phonics teaching as the route to introducing sounds and linked teaching all the sounds to teaching all the phonics rules. Because of this, they were opposed to the idea of teaching learners all the sounds of English at an early stage of learning. They stated in similar terms that the sounds and rules should be introduced gradually and in stages. Four of the teachers indicated that beginning learners should be exposed to the sounds of English first through listening to English rather than being taught explicitly, as reflected in the following extracts:

> *"Students should build up some memory for the sounds first through listening to English. The rules should be taught gradually. There's no need to rush (T2)"*

> *"No. I like to focus on words and sentences first because focusing on the*

sounds all the time might make the lesson really boring. I like them to have an interest in English at the beginning". (T6)

"*I think the age that learners start learning English is getting lower and lower. Because of that, I think we should use a more natural way to get them used to the sounds of English instead of forcing them to identify or memorize the sounds. We can teach the sounds through chants and songs and listening and speaking practice". (T7)*

It appears that although the teachers were aware of the problems associated with using phonics as a pronunciation tool, they also resisted accepting an alternative system (K.K.) that could ensure greater accuracy in pronunciation and allow beginning learners more independence on account of young learners' level of cognitive development and familiarity with English. When asked whether they considered it important that learners be taught at the primary school stage to use a tool that would allow them to independently get the correct sounds of new words (Q7), either because of differences in interpretation of the question or their preoccupation with phonics, teachers' opinions were more divided. Six of the eight thought of phonics immediately. Of these, four believed that it should be so and that phonics was able to serve the purpose, one believed that phonics was able to serve the purpose but only to a certain extent, and the others thought that phonics may be able to serve the purpose but gave reasons why it may be difficult to achieve in practice in her statements:

> *"Truth to tell, I think it would be wonderful if they could do this (finish learning phonics). What I mean is we may teach it but do learners really learn it or use it? The problem we have now is that we usually manage to finish teaching what's in the textbook, but students either can't remember or they don't use what they've learned. So, we do try to provide them with a tool but the problem is can they use it? It's difficult to judge. Every learner is different and some who learn really well can probably sound words out, but for others, I am not so sure." (T8)*

The remaining two teachers believed that only K.K. was able to serve the purpose and one of them cited this as the reason why she was teaching K.K. to year 5 and 6 learners. The other felt that K.K. could not be taught because there was no time to do this.

Discussion

In general, the teachers demonstrated fundamental understanding of how phonics works for Taiwanese EFL learners. They viewed phonics mainly as a system that enabled learners to pronounce words as well as a gateway to the acquisition of English phonology. They were conscious of the benefits of phonics in facilitating learners' spelling ability as well as its limitation as a pronunciation system and its restricted use in gaining access to word meaning. Perhaps the most intriguing of the teachers' responses is the apparent resistance to teach K.K. to primary school

beginning learners despite their awareness of the limitation of using phonics as a pronunciation system and the benefits of teaching K.K. Although a range of reasons were given to support their stance, many of them, however, do not appear to be valid under close examination.

First, one of the major reasons cited was that whereas many of the K.K. symbols resemble those of the lower case letters which may potentially confuse younger learners and are more difficult to learn, phonics enabled a direct link between sounds and letters without having to rely on symbols and hence, was easier for learners to cope. As learners, even at year 3 (age 7-8), are able to learn all the lower and upper case letters and are already required to learn Chinese characters as well as written English words by sight, presumably they possess the required cognitive ability to cope with learning new symbols. Hence, the focal point of their concerns seems to fall on the potential confusion learners may face if they have to learn to attach different sounds to the same symbols. Nonetheless, as phonics teaching also involves attaching two sounds to the same alphabetical symbols (letter name and letter sound), presumably, presenting the letter sounds in separate symbols would in effect be less confusing for the learners. Since the teachers predominately believed that K.K. should be taught after phonics had been taught, it is possible that the teachers' concern for teaching phonemic symbols to young learners were based on the circumstance that learners had already acquired the sounds of *A* to *Z*.

If the sound-letter links are taught and repeatedly practiced, there is a possibility that the letters will be eventually used as sound symbols. For instance, learners may reach the stage whereby the view of the letter *e* triggers the immediate retrieval of its associated phoneme. When K.K. is then taught, as the phonemic symbol /e/ does not represent the sound of letter *e*, confusion can occur. However, if the sound symbol of /ɛ/ is provided when the sound of letter *e* is taught, learners may be less likely to regard letter *e* as a sound symbol. Once the link is established, they may be able to mentally associate letter *e* with the phoneme which is represented by /ɛ/. The use of sound symbols may help to avoid the confusion facing learners when a different sound linking to the same letter is taught.

Even if K.K. is taught after learners have learned the sounds of *A* to *Z*, as table 5.1 demonstrates, when comparisons are made on the two different sets of symbols and the sounds they represent, sixteen of the phonemic symbols share the same sounds as the sounds of the lower case letters, nineteen of them are new symbols and only six phonemic symbols are those that share the same forms as the letters but are linked to different sounds and can potentially cause confusion.

Table 5.1 A comparison of K.K. and the sounds of the symbols of the alphabet

Phonemic symbols that share the same sound as the sound of the letter:
/b/, /d/, /k/, /f/, /g/, /h/, /l/, /m/, /n/, /p/, /r/, /s/, /t/, /v/, /w/, /z/
New symbols:
/ɪ/, /ɛ/, /æ/, /ɔ/, /ʊ/, /ɜ/, /ɚ/, /ʌ/, /ə/, /θ/, /ð/, /ʃ/, /tʃ/, /ŋ/, /ʒ/, /dʒ/, /ɑɪ/, /ɑʊ/, /ɔɪ/

Potentially confusing symbols:
/i/, /e/, /ɑ/, /ʊ/, /o/, /j/

Again, as beginning learners are already in year 3 (age 8-9) and have begun to learn written words, presumably their cognitive maturity should allow them to cope with the learning of the new symbols. For the phonemic symbols that may potentially confuse learners, as the sound status of phonemes are marked by forward slashes //, it is believed that with regular exposure, learners will eventually be able to differentiate between the alphabet and the phonemic symbols. In fact, with many of the phonemic symbols sharing the same sounds as well as forms with the alphabet, it may prove beneficial to introduce them simultaneously.

In addition, although the teaching of phonics indeed allows a direct link between sounds and letters, the difficulty involved in using phonics to sound out words for young Taiwanese EFL learners may be underestimated. Compared with using concrete symbols such as K.K. to sound out words, far more complicated knowledge and processes are required in using an abstract system such as phonics. Learners have to go through the process of dividing a new word into the appropriate relational units and search in their knowledge repertoire for the correct phonemes to match and apply their phonemic processing skill to sound out the words. In other words, while the former relies on learners' ability to recognize the forty-one phonemic symbols and phonological processing skill, the latter requires learners' knowledge of various sound-letter links, orthographic regularities as well as phonological processing skill. With the latter, however, even

if learners successfully carried out the processes, because of the nature of English orthography, accuracy may still be a problem.

Further, the efficacy of phonics as a pronunciation tool may also be overestimated. All the teachers believed that phonics works with a majority of English words: a figure of 80% was mentioned. It is not clear on what basis the figure was arrived at or how regularities were defined, i.e. what knowledge base was used as criteria; however, judging by the absence of research on the efficacy of phonics on EFL learners, the figure may be more likely to be calculated based on how phonics works for EL1 learners. Without the same amount of preexisting knowledge of the language, it is uncertain whether for EFL learners English exhibits the same level of regularity. It is possible that many of the regular words may potentially be irregular for EFL learners.

Another problem associated with using phonics as a pronunciation system is, as revealed by the results of the textbook analysis, that none of the textbooks covered all the phonemes in American English. Hence, through phonics, learners can only obtain partial knowledge of English phonology. Without specifying the sounds of the new language, as has been previously discussed, learners may not be able to perceive sounds that are similar but are in effect different from sounds in their native language.

Despite the counter arguments, it is understandable that teachers hold such beliefs and preferences for phonics teaching. Firstly, it is inevitable for teachers,

who already know English, to give a more favorable opinion of phonics because the knowledge of the language they already possess can serve as a basis to verify that phonics works. For instance, for a teacher who already knows that ‘bread’ is pronounced as /brɛd/, that *ea* is linked to /ɛ/ proves the utility of the knowledge. For learners to whom the word is unknown, however, the uncertainty of whether to associate *ea* with /i/, /ɛ/ or /e/ may render phonics less effective in their perception. It is also important to note that as all the teachers were users of K.K., they may not have experienced the challenges of using phonics alone to retrieve pronunciation of new words. It is possible that the teachers’ own experience as learners contributed to their knowledge of phonics. As mentioned in Chapter 1, before phonics instruction became mainstream, the majority of learners were taught K.K.. The pronunciation of new words was obtained by assembling the phonemic symbols accompanying new words. Hence, words were sounded out without knowledge of the sound-letter links. However, as the symbols were presented either side by side or directly underneath the written vocabulary, the sound-letter links could be easily retrieved. In addition, knowledge of the links between the phonemic symbols and the letter components in new words often formed part of the classroom teaching and assessments. Knowledge of the system enabling learners to independently sound out words accurately therefore preceded acquisition of sound-letter associations and most learners were able to infer the sound-letter links over time. The teachers interviewed in this research would all have experienced the learning described above and it is possible that as a result of this experience, in which knowledge of sound-letter links was acquired

only as the result of long practice using phonemic symbols, that the teachers consider direct teaching of sound-letter links as preferable because it is time-efficient and saves learners a lot of mental effort. That is, teachers' current knowledge of what phonics promises to do combined with their own experience of traditional literacy practice in their specific social context may contribute to their belief of the benefical effect of phonics teaching rather than the actual observation of the efficacy of phonics.

Secondly, the fact that the government replaced K.K. with phonics when it moved English teaching into primary school may also contribute to teachers' perception that the learning of K.K. is cognitively too demanding for younger learners. In other words, the mediating inflences of policy makers may affect how the teachers view the relationship between young learners' and K.K.

In addition, as the vocabulary for primary school learners tends to be shorter and more memorable and hence, can be readily sounded out using phonics, the teachers may not feel the need for an alternative system to phonics that allows more accurate pronunciation. Further, as there is little demand for independent learning in a typical primary school classroom, the teachers may not detect all the potential challenges learners face using phonics as a pronunciation system.

Finally, classroom teaching involves far more than the simple transmission of knowledge; any instructional decision also needs to take into account the context

learners are in. In Taiwan, learning is very much test-oriented and strong emphasis is placed on rote memorization of knowledge. Any official addition of teaching input produces a related assessment requirement. As learners' performance will reflect on the teachers' teaching, the teachers are compelled to spend more time and effort to consolidate learners' knowledge of the new addition. It increases both the learners' and the teachers' burden. This may also be the reason behind teachers' reluctance to accept any additional teaching content. Hence, the social value system may have profound influences upon the teachers' thinking and action and promt them to adopt teaching procedures that fit with social expectations.

5.2 Research question 2b

How and when do teachers think phonics should be taught?

Results

This question was another attempt to establish whether phonics is viewed as the mediator between written and spoken language or simply as a tool for sounding out words. Five interview questions (Q9-Q13) were designed to collect information on this point. To a certain extent, what role phonics plays is determined by when it is taught in relation to when the spoken form is taught; hence the teachers' opinion on whether phonics should be taught after learners have learned sufficient spoken language were sought (Q9). Responses to this question showed that in general all the teachers considered the amount of spoken

language learners possess as irrelevant to the function of phonics or its efficacy. Six of the teachers believed that phonics should be taught as soon as the alphabet was taught, which is often at the beginning of English learning. Two of the teachers believed that some exposure to the spoken language was necessary, although only as a means of familiarizing learners with the sounds of English (T7) or to interest learners in English (T1). It appears that phonics is viewed as a gateway to written English without the need for knowledge of the spoken form. This position is exemplified in one of the teachers' statements:

> *"I think the amount of spoken English learners have isn't very relevant to phonics. Phonics is more to do with reading words. They (phonics and spoken English) can be taught at the same time."* (T2)

Once again, there were signs that contextual factors contributed to shape their views, as revealed in T5's comments:

> *"I know in English-speaking countries, because it's their native language, students have a lot of exposure to listening and speaking practice. So, they learn phonics much quicker. But Taiwan doesn't have the same environment, so I don't think it's necessary to wait until students have built up a certain level of spoken vocabulary. It is not necessarily beneficial to follow other countries' pattern. My feeling is that it's quicker if written and spoken forms of the language are taught at the same time because if students can read, they*

will naturally know how to speak. I think when I am learning another language, perhaps because I am an adult, if I only learn through listening to the language, I will forget what I learn very quickly. But if there are words there to remind me, I can remember them much better. I think exposure to written words help promote memory."

Responses to whether words selected to demonstrate phonics rules should be the words that learners have learned the spoken form of (Q10) reflected similar views. The overriding belief among the teachers was that as the practice of the rules is the focus of phonics teaching, it matters not whether learners have previously learned the words. Only two teachers (T2 & T4) indicated a preference for the words to have been taught previously, reasoning that this would allow learners to remember the sound-letter links better, rather than that having the existing knowledge would enable them to confirm that the words were correctly pronounced.

Responses to how phonics should be taught (Q11) were consistent. All eight teachers indicated a preference for a slow approach and emphasized that several example words should be used to illustrate a sound-letter link after it has been taught. The reasoning is illustrated in T5's and T6's responses:

"I think each method has its own advantages and disadvantages. Personally, I prefer to teach it slowly with meaningful words to illustrate the links. This

way, they can learn a lot more words." (T5)

"I think after a sound-letter link is taught, words that contain the link should be given. Because I think only through examples can their memory of the sound-letter link become established." (T6)

However, the teachers' preferred approach is that adopted by all the mainstream textbooks and, as there were observable signs of confusion and hesitation when the question was first addressed to them, they may not be aware of alternative methods, as T3's reply demonstrated:

"I haven't actually thought that phonics can be taught in that many ways. We always use the first way you mentioned, so I have no idea how other methods would work but that's very interesting…(T3)"

The analysis of the mainstream textbooks (see Chapter 4) shows that phonics teaching is spread over the entire primary school English curriculum and is often separated from the main lesson in the textbooks. Moreover, the phonics rules taught in each section are often irrelevant to the key vocabulary of the lesson. Teachers' opinions on this arrangement were sought via Q12 and Q13. Their opinions on whether phonics teaching should follow a specific order and whether it should link to the key vocabulary of the lesson (Q12) were once again consistent. All eight teachers stressed that the sounds of *A* to *Z* should be taught

first and that the order of the rest of the rules was less important. Three of the eight teachers indicated a preference for following the sounds of *A* to *Z* with the short vowel sounds and then long vowel sounds (T5, T6, T8) - the order adopted by most of the mainstream textbooks. All the teachers had reservations as to whether linking the order of teaching of phonics rules to the lesson contents was a practicable idea, as reflected in the following comments:

> *"I guess it should be so ideally but does that mean the most common rules will get taught first? I guess it depends a lot on the words in each lesson. It seems to require a lot of careful planning*." (T6)

> *"I think it would be better if the words in the main section were linked to the rules taught in the phonics section but I am not sure that the order of the rules should depend on the vocabulary or that the words in the main section should be chosen according to the phonics rules…I think the most common rules should be taught first.*" (T8)

It appears that the teachers accepted teaching key vocabulary without the learners having much of the relevant phonics knowledge. More diverse opinions were found in their responses to whether they were happy with the way phonics teaching is presented in the textbook (Q13). Four of the teachers found the arrangement satisfactory. In fact, one of the four teachers actually preferred the fact that the key words contain phonics rules that have not been taught previously:

> *"Yes, because learners can learn the key vocabulary of the lesson first…it's like learning by sight and then when later the rules are taught, they have words to check and practice the rules"*. (T7)

The other four teachers, however, were less happy with the phonics section and the main reason given was that not all the words used to illustrate a sound-letter link can be sounded or spelled out entirely using learners existing knowledge. T3 explained:

> "*It uses words that you can't ask the students to sound out. For example, it put a word like 'elephant' in Book 1 for year 3 students to learn. It's completely unsuitable. It makes them question the reliability of phonics right at the beginning."* (T3)

Only one teacher felt that phonics should be isolated from the main textbooks and be given more importance.

Discussion

The fact that all the teachers considered the amount of spoken language learners possess as irrelevant to the function of phonics or its efficacy once again confirms that phonics is not viewed as the mediator between spoken and written English

but a tool that allows the acquisition of word pronunciation via written media. Although some of the teachers demonstrated awareness of how phonics may enable access to meaning in their responses to the previous questions, the mainstream belief that words used to illustrate the rules do not have to be words previously learned suggests that the idea that preexisting knowledge would also allow confirmation of word pronunciation may not occur to them. Given the crucial role of spoken language for the efficacy of phonics for EL1 learners, the teachers may not have a thorough understanding of how phonics works for native learners of English. It is possible that all the phonics related training courses the teachers received were Taiwanese-learners oriented; hence, this function of phonics had not been addressed. In addition, as EFL teachers, teaching learners who in general did not possess pre-existing spoken English would also make it hard to detect how phonics could work differently. Knowledge of this function of phonics may permit deeper understanding of the difficulties Taiwanese EFL learners face using phonics as a pronunciation tool; however, as early exposure to written English is considered important, it is not clear whether knowledge of how phonics works for EL 1 learners would alter their perception of how it works or should work for Taiwanese EFL learners.

With respect to when phonics should be taught, the general consensus that phonics should be taught immediately after learners have learned the alphabet suggests that all the teachers viewed phonics knowledge as important for the introduction of written English; however, their apparent preferences for a slow

approach to teaching phonics appears to contradict this interpretation. As the sounds of *A-Z* were cited by some of the teachers as 'the basic' and should be taught first by all the teachers, it may be that the teachers believed that with the 'basic set' of sound-letter rules, learners could cope with the learning of written English at the early stage. However, a look at the proportion of vocabulary that learners were able to correctly sound out using the sounds of *A* to *Z* in Book 1 & Book 2 of the six mainstream textbooks suggests otherwise.

Table 5.2 Percentage of phonically regular words in B1 & B2 in all six textbooks based on the sounds of A to Z

HE	JE	HD	NWE	ML	GS
19%	13%	16%	39%	24%	18%

As table 5.2 shows, the proportion of words that can be sounded out using only the sounds of *A* to *Z* in Book 1 and Book 2 of all six textbooks falls under 40% and is under 20% in four of the six books. It may either be that the teachers were unaware of the limitation of using the sounds of the alphabet to obtain the pronunciation of the new vocabulary or indeed they believed that a partial knowledge of phonics at this stage is sufficient for the learners' needs. As all the textbooks endorse a whole-word approach to teach vocabulary, there may indeed be no demand on learners' phonics knowledge. This, however, brings back the question of the utility of possessing only partial knowledge of phonics at the early stage of literacy learning for Taiwanese EFL learners. Knowledge of phonics, even

partial, may enable the learners to register sounds of new words better than totally without such knowledge. In addition, providing that word sounds are given, possessing some phonics knowledge may also allow learners to infer new sound-letter correspondences in words. Another additional benefit of teaching written words with some phonics knowledge is that every exposure to written words is a chance for consolidating knowledge of the sound-letter links. It may be that the teachers were aware of these benefits of possessing some phonics knowledge for their learners. All the benefits are possible, however, if learners are able to devote some attention to the construct of words. If whole-word is used as the dominant approach to teach vocabulary, learners may not necessarily process the letter components of words. Thus, the benefits of possessing partial phonics knowledge may be lost. In other words, a lot of potential benefits depend on the actual classroom teaching. If the teaching practice involves directing learners' attention to the letter components of new words and regular word analysis for possible sound-letter links, learners may be able to consolidate and expand their phonics knowledge based on existing phonics knowledge.

As for whether the order of teaching phonics rules should be linked to the key vocabulary of the main content, the teachers' reservation demonstrates their understanding of the reality of EFL teaching. Because EFL teaching involves the teaching of a completely new language, criteria other than word regularity for vocabulary selection, such as learnability, word frequency and learners' interest may need to take precedence. If the criteria for selecting vocabulary for the key

lessons are based on the phonics rules of the lesson, then the vocabulary learners learn may not be the most relevant to their life and may have less practical use. On the other hand, there are intrinsic difficulties in setting the rules according to the main vocabulary. For a start, it may not allow a systematic progression to cover most of the common phonic rules. In addition, the key words may not necessarily be phonically regular words. It also suggests that learners may have to learn many more rules to cope with learning the key words at the early stage. It appears that neither of the arrangements is feasible and that either way, phonics can only be of limited use to the teaching of key vocabulary. The problem can only occur, however, under the circumstance that written and spoken English is taught simultaneously. If the teaching of written key vocabulary is delayed until learners have built up a certain level of spoken repertoire and phonics knowledge, phonics can play a more crucial role in assisting learners to acquire the key words.

It is possible that the teachers had presupposed how and when written and spoken English should be taught and that it was on this presumption that they constructed their responses to the questions. As all the primary school mainstream textbooks endorsed simultaneous exposure to written and spoken English, it is possible that the way the textbooks arranged English teaching formed the basis of their beliefs. Indeed, in general the teachers' beliefs of when and how phonics should be taught appeared to be in line with the way the mainstream textbooks presented English teaching. The fact that the teachers

were not aware of alternative methods of teaching the sound-letter links other than the way the textbooks presented phonics teaching further indicates that the textbooks may indeed have profound influences on the teachers' perception and beliefs of phonics and English teaching. Despite the influence of and adherence to the textbook the teachers' responses also demonstrate signs of their fundamental understanding of the situation young Taiwanese learners are in and this awareness also plays a part in their perception of when and how phonics should be taught to young Taiwanese learners.

5.3 Research question 2c

What are the teachers' views on when best to start the teaching of reading and writing in relation to the teaching of listening and speaking and phonics?

Results

Knowing teachers' attitudes toward the sequence of teaching the written and spoken form of English and phonics may provide further clues as to how they understand phonics and the role it plays in the teaching process. Q14 and Q15 were created to address these issues. Responses to whether the teaching of written words should start after students have learned sufficient spoken English reveal that although all the teachers believed that it should be so in theory, they felt that due to the language context in Taiwan, English teaching should integrate different skills and that it is more beneficial to expose learners to both visual and aural input simultaneously. T3's and T8's comments sum up the reasons given by

other teachers:

"In theory, it should be so; it seems to be the normal process of language learning. But in reality, in this kind of social environment I think it's neither feasible nor necessary… I think the four skills can start at the same time. I think learning written words can help them gain access to the spoken form of the language. For example, when you are sounding out a word, you will build up some memory for its sounds. Of course, speaking and listening practice can also help learners to learn to read and write. For example, if a learner hears 'how are you' often enough, he will very soon know what it means when he sees 'how are you' in words. So, I think the four skills interact and influence each other. I think if learners can hold a pen or can read, they can learn the four skills at the same time. I think that way learning will be more efficient." (T3)

"I think the four skills can start more or less at the same time… I think the reality now is that not all children start learning English in year 2; many of them already have some contact with English before they start officially, so they can easily manage learning to read and write. Another advantage is that if the four skills are being taught at the same time, then students who are more advanced can focus on reading and writing and those who are slow can just focus on listening and speaking… but when we start a lesson, we still start by focusing on speaking practice first and then progress to reading and

writing practice." (T8)

The teachers were also consistent in their opinion on whether written words should be taught after most of the phonics rules that govern them have been taught (Q15). As already revealed in their responses to when phonics should be taught, all eight teachers believed that written words should be taught after the sounds of A to Z instead of waiting until most of the rules that govern them have been taught. A range of reasons were given to support their stance:

- Written words can be learned using the sight word method. (T3)
- Teaching most of the rules first will delay the teaching of written words. (T4, T5)
- Teaching written words according to phonics rules taught will limit the words students learn. (T2,T7,T8)
- There are words that cannot be analyzed by phonics rules. (T2)
- Learners can learn part of the words by phonics and part by other methods. (T1, T6).
- Learners can acquire written words by being exposed to them frequently (T7)

Discussion

Duffy and Anderson (1984) concluded from their study on teachers' beliefs and their classroom practice that the complexities of classroom life can constrain the

extent to which teachers' are able to attend to their beliefs and provide instruction which aligns with their theoretical beliefs. Indeed, from the teachers' responses, it is evident that the teachers possessed theoretical beliefs of how teaching should be conducted. In theory, they believed the teaching of spoken English should precede the teaching of written English; however, in practice, their awareness of the contextual constraints prompted them to endorse simultaneous instruction of written and spoken English for Taiwanese learners. The implication of this for phonics is that unlike L1 learners, for whom the spoken language forms the basis for the acquisition of written language through the mediation of phonics, phonics has the potential to enable learners to obtain the spoken form of the written language. However, the teachers' responses to whether written words should be taught after most of the phonics rules that govern them have been taught indicated that they did not intend for phonics to serve this role. From the range of reasons given, it is clear that learning written words through phonics alone is not regarded as a viable choice by the teachers. This corresponds to their awareness of the complexity of English orthography as well as the limitations of phonics shown in earlier discussion. However, instead of considering phonics as the major strategy for word acquisition and other strategies as compensatory, phonics appeared to be regarded as subordinate to other strategies such as learning by sight through high frequency of exposure. The limited role teachers believed phonics could play in the teaching of written English appears to contradict their stated importance of phonics knowledge. As their views on the onset of teaching written English in relation to the teaching of spoken English and phonics are

consistent with the arrangement of the mainstream textbooks, once again the influence textbooks had on their perception appears to be significant. In general, the teachers' view of how literacy teaching in EFL should be conducted reflects the traditional model.

5.4 Research question 2d

How do the teachers perceive the relationship between phonics and self-teaching? What are their opinions on young learners' abilities to self-teach?

Results

Interview Q16, Q17 and Q18 were designed to elicit information regarding teachers' beliefs about phonics and self-teaching. When asked how they perceived the relationship between phonics and self-teaching (Q16), all the teachers identified phonics as a tool learners may use to teach themselves the pronunciation of new words. This was similar to their interpretation of the relationship between phonics and reading. However, all of them acknowledged that accuracy may be a problem. Two of the teachers indicated that learners can gain access to meaning through pictures and textual content and context, and that through application of their phonics knowledge, they will be able to acquire the meaning as well as the sounds of new words:

> *"To read out words and…suppose we teach the word 'egg'. They know the picture is an egg and then they see the word 'egg' and can sound it out.*

Suppose the story goes 'I have an egg', he will be able to link the sound to the meaning. In other words, he can learn both the sounds and meaning of the word using his phonics knowledge." (T3)

"I suppose if a student is familiar with phonics rules, he may feel less frustrated because at least he has a tool to get the sounds. If the words in the books aren't too difficult and there are pictures, self-teaching can be achieved because they can learn the pronunciation of the words by using phonics and meaning through looking at the pictures." (T5)

When asked about their opinion on learners' ability to self-teach if new words were given with meanings provided (Q17), their responses were overwhelmingly negative and involved a range of cognitive, psychological and social/contextual issues. Six of the teachers believed that complete independence is not achievable and that students require parental assistance or prompting to learn. Five out of the eight teachers believed that as Taiwanese learners were rather passive, the task would not elicit the desired effect. Of these, two felt that to ensure that students do learn words they might resort to tests to give learners some incentive. Four of the eight teachers felt that only students who learn phonics well or attend private institutes would be able to manage the task. Two believed that learners might use their phonics knowledge but might not be able to read the words correctly and one felt that learners might not apply their phonics knowledge in learning the words. Most of the teachers attribute their distrust in learners' ability to self-teach to the

influence of the social and cultural context. The following extracts demonstrate some of the difficulties inherent in the task as perceived by the teachers:

"I think from the perspective of language learning, training learners to learn independently is necessary but in reality, at this stage, it is very difficult for us to do so. Students' levels are so different; what may be new words for some might not be for others. For those low achievers, it is even more difficult. They can't even learn what's in our textbook well." (T3)

"I doubt they will be able to learn the words. I think elementary school students these days only want to have fun; they don't want to spend extra time on reviewing their lessons. I really doubt any students will voluntarily learn the words at home. Usually their parents have to push them. I think even if they have the ability, they are not able to take the extra burden; they will find an excuse to refuse. Many students are attending private institutes. They can't even find time to finish work given by those institutes, let alone homework given by our school." (T4)

"Students are learning so much at private institutes. I don't think they have much time to learn things themselves. I really think it's the influence of our culture background. It has always been our learning style and from the way policies are made to parents' perceptions and students' beliefs, there are signs of the cultural influence. I think because of that, if they are asked to change, they will feel lost; they are unable to learn independently." (T8)

Teachers' distrust of their students' ability to self-teach was also reflected in their views on whether a teacher should read through a story book with her students and explain the content if she intends to assign it as homework (Q18). Five of the teachers believed it should be so even if the story book suited the learners' reading level, one felt that if the story suited the learners' level learners could be left to read it themselves unless the story contained many unknown words, while only two teachers felt that if the story suited the learners' level it could be assigned with no preparation. T6's explanation reflects much of the inner struggle felt by the teachers:

> *"I think I would read through it with them. I suppose being a teacher, I have a lot of fundamental distrust of students' ability to do things themselves…I feel I have to figure out what's important and what's not for them. I don't know whether it's because of distrust or not…I wonder if by doing so, I actually deprive learners of a chance to develop but I just feel it's my duty to make things easy and make sure they don't miss things." (T6)*

Discussion

The teachers' opinion on the relationship between phonics and self-teaching further confirms that the self-teaching function of phonics was restricted to the acquisition of word pronunciation in their belief. Some of the teachers, however, were aware that, provided with appropriate reading materials, learners may be

able to acquire the spoken form of the language - that is, they would be able to link a meaning to the sounds they obtained using phonics knowledge and picture clues. What this implies is that phonics has the potential to help learners to acquire both the written and spoken form of new words simultaneously in self-teaching. However, despite their knowledge of the beneficial effect of phonics on self-teaching, they did not believe that assigning their learners self teaching tasks would achieve the desired effect. Although all teachers cited the limitation of phonics as a self-teaching tool in explaining this belief, the main reasons for their distrust of learners' ability to self-teach were mostly sociocultural. That is, teachers' responses revealed the culturally-conditioned belief that learners are not required to engage in independent learning because everything that is important (everything that is tested) is directly taught by the teacher. Hence it reflects teachers' beliefs about what is required of them: to directly teach the material rather than acting as an enabler of independent learning. The self-teaching function of phonics was therefore not promoted by the teachers.

Eccles and Wigfield (1985) found in their study that teachers who believe in their learners' ability to learn will promote literacy development, while those who regard learners' lack of ability to learn as a stable state will produce a debilitating environment. The teachers' fundamental distrust of learners' ability to self-teach may greatly affect the extent to which learners were given self-teaching opportunities. The teachers' lack of confidence in learners' ability to self-teach may also contribute to the belief that any reading assignment for their learners

required their input. Their awareness of L1 literacy acquisition processes may also play a part. Because of the nature of Chinese orthography, unlike L1 English learners to whom reading a normal text does not require recognition of all written words in the text before the reading takes place as phonics would enable access to meaning, Chinese learners need to build up a sufficient amount of characters before independent reading of ordinary texts[3] becomes possible. Although the use of Chinese phonetic symbols in textbooks enables the learners to gain access to the meaning of written words, learners still need to establish the print meaning link through the use of visual memory. Because of the complexity of Chinese characters, teachers often need to teach each character by writing them down stroke by stroke in an organized sequence to demonstrate to learners how a character is written. Word copying is the most prevalent method used to facilitate memory of new characters. Hence, the acquisition of written characters at early stages of learning is predominately through being taught and by high frequency of exposure and written practice. It is possible that because of this awareness of how learners acquired their L1 literacy, the teachers felt the obligation to provide learners with all the knowledge needed before they were required to read independently. The problem is, however, when everything learners were required to read had been taught to them, reading in English may eventually be perceived as to consolidate taught knowledge instead of for meaning or for pleasure. As it is not viewed as a pleasurable experience, learners may be less likely to engage in reading in English voluntarily.

[3] Ordinary texts do not come with Chinese phonetic symbols

It is evident that the teachers' perceptions of young learners and self-teaching are congruent with the ideolgocial assumption embedded in the textbook design. The process by which learners acquire literacy in the first language and the teachers' social-specific perception of young learners and self-teaching also has profound effects on how young Taiwanese learners acquire literacy in the foreign language.

5.5 Research question 3a

How do the teachers conduct a lesson? How is written and spoken vocabulary taught?

Results

Whereas the previous research questions (2a to 2d) focussed on the teachers' cognition of phonics and English literacy, research questions 3a to 3e aimed to gain some insights into how this impacted on their teaching practice. Teachers were asked how they conducted a new lesson and taught new vocabulary (Q19 & Q20) as this may provide clues to the actual role of phonics in the teaching process. Five of the teachers reported adopting a top down approach. All five teachers reported playing the CD along with the written dialogue when it was first introduced. The purpose of this appears to be to ensure that learners received simultaneous exposure to written and spoken input at the beginning of the lesson, as suggested in T4's response:

"*The first thing I do is always to play the lesson CD. I always have the*

students open their book and follow the written dialogue while the CD is playing" (T4)

The remaining three teachers reported adopting a bottom-up approach, in which vocabulary was taught first, followed by sentence patterns and then the dialogue of the lesson. Their responses to the question regarding how they introduce new words and whether they separate the teaching of written and spoken forms (Q20) revealed slightly more discrepancy. 'New words' here was interpreted by all the teachers as the key vocabulary of the lesson, consisting of words that may or may not be sounded out with learners' existing phonics knowledge. Seven of the teachers reported teaching the spoken form first via the use of picture cards. Of these, six gave responses that indicated that they teach written words via a 'look and say' method in which they read out the words and have the learners repeat after them without resorting to phonics. The remaining teacher said that she made the students sound out the words first via the use of K.K. symbols. Of the seven teachers, however, six also indicated that they analyze written words for possible sound-letter links once learners are acquainted with both forms. They viewed this as an opportunity to increase and reinforce learners' phonics knowledge, as demonstrated by T5's comment:

"Now I make a deliberate effort to analyze the words for them. Like I said, they may learn the rules eventually if you do it enough." (T5)

Only one of the teachers interviewed reported teaching written words first and then using the picture cards to demonstrate the meaning. In other words, she used the written form as the basis to introduce the spoken form. In general, it appears that learners were rarely asked to apply their phonics knowledge to sound out new words and that it does not play a vital role in the teaching approaches adopted by all eight teachers.

Discussion

In general, the teachers' reported approach of conducting a new lesson was consistent with their belief that Taiwanese EFL learners should be exposed to written and spoken input simultaneously. It indicates that phonics neither served as the mediator between spoken and written English nor was it the main strategy used for gaining the pronunciation of written words. Similarly, with regard to how they introduced new words, although seven of the teachers presented spoken form first via the use of picture cards, instead of then using phonics to guide learners to construct the written form or sound out the written words to match with the pictures (spoken words) just learned, a direct 'whole word' match was adopted. In other words, despite being regarded as a tool that allows the acquisition of spoken language via written media, phonics was not used in this way in the actual teaching process the teachers reported. The fact that the learners had not acquired all the necessary rules required for the conversion may be the main reason behind the instructional choice. However, even with

partial phonics knowledge, some guided decoding or encoding practice may prove beneficial. That the teachers assumed the role of sole transmitter of all the necessary knowledge learners need to learn is in fact consistent with their fundamental belief of learners' inability to learn independently.

The majority of the teachers reported analyzing written words for possible sound-letter relationships for their learners, as previously discussed. Such practice has the potential to consolidate and expand learners' phonics knowledge, yet it remains at the knowledge level. In general, despite the teachers' preoccupation with phonics as a mediator between the pronunciation of a word and its printed form, the teaching process appears to make little demand on learners to apply their phonics knowledge. What this demonstrates is a disparity between the teachers' belief of what phonics instruction can achieve and the instructional practice they adopted and hence the teaching process may not maximize the effect of phonics instruction. The disparity may, as revealed in the teachers' responses, be a result of the culture-specific conceptualization of what constitutes effective literacy teaching and how young learners should be taught.

5.6 Research question 3b

Are learners given opportunities to engage in self teaching practice?

As the types of homework or tasks assigned to learners can reveal whether

learners are given opportunities to engage in self-teaching practice, this was addressed in one of the interview questions (Q21). The responses to the question showed that all the homework or tasks assigned by all eight teachers involved mostly copying newly taught vocabulary or sentences and was aimed predominantly at reviewing what had been taught in the class. All teachers replied in the negative when asked if they had ever assigned students homework that may require that they learn or have contact with new words independently. The rationale behind this decision is consistent with the explanations given regarding their lack of confidence in learners' self-teaching abilities (Q17). T5 and T6, for example, explained:

> *"No, because they won't do it. Also, I think you have to make sure they've learned what's in the textbook before asking them to learn new things. They can't even remember what has been taught in class, let alone learning extra things". (T5)*

> *"I once bought a set of story books called 'The magic tree house' using the school budget and put them in a place where they could be easily seen in the classroom. The books are bilingual; they are written in English with a Chinese translation on the reverse. But not many students looked at them. Once I saw a few bright girls reading them and was really pleased but when I approached them, I realized they were reading the Chinese translation. I think when students want to*

read for pleasure or information, they will choose to read in Chinese. Reading in English seems to be full of pressure and burden for them." (T6)

Discussion

As a reflection of the teachers' lack of confidence in learners' self-teaching ability, it is evident from the teachers' responses that the learners received little self-teaching practice in as well as out of the school classroom. What this implies is that, despite the teachers' belief that phonics would enable learners to gain access to sounds of new words, this belief was rarely tested in independent learning. It is therefore possible that learners themselves may not be aware of the efficacy of phonics as a pronunciation tool and neither could the teachers detect how well phonics worked for learners in self-teaching. It also implies that although the teachers' expressed deep-rooted distrust in learners' ability to learn independently, such distrust may not be the result of the actual observation of the effectiveness of engaging learners in self-teaching tasks but based largely on speculation and their understanding of the psychological characteristics of young Taiwanese learners. Although intrinsic difficulties exist in facilitating independent learning in young learners in a context which has traditionally been focused on teacher-centered instruction and where learning is assessment-driven, success has not been unheard of (see Butler & Lee, 2010).

It is important to consider the implications of the absence of self-teaching practice

for young Taiwanese EFL learners. As mentioned in Chapter 2, studies on EL1 learners suggest that because of the complexity of English orthography, for learners to master the sound-letter system of English, engaging them in real reading is equally important to the teaching of basic and regular sound-letter rules. As EFL learners under phonics instruction would also face the complexity of English orthography, facilitating learners' ability and interest in independent reading may prove equally beneficial. This aspect of literacy learning is largely absent from the teaching practice.

Learners' ability to transfer skills to new tasks is the epitome of successful learning (Carnine, 1977). To fully understand the efficacy of phonics teaching, for learners to engage in some forms of self-teaching practice may be necessary. By providing students with opportunities to self-teach as well as giving them feedback based on the results of their self-teaching, students can become more aware of their own learning process and performance, and teachers may be able to have a more complete understanding of how phonics works for young Taiwanese EFL learners.

It is understandable, however, that under the constraints of an examination-driven learning culture, limited English class time, and the burden young Taiwanese learners have in coping with the demand of numerous school subjects, teachers may not have all the flexibility they need to teach the way they deem most effective for facilitating ther learners' literacy learning in EFL. The word copying

that forms a major part of learners' EFL after school practice and the focus of the majority of assigned homework on consolidation of learned knowledge mirror the focus of L1 literacy teaching practice.

5.7 Research question 3c

When and how is vocabulary tested and spelling mistakes scored?

(Q 22-Q24)

Results

Bald (2007) described phonics as the basis of spelling and emphasized that to teach children spelling, it is crucial to enable them to use regular patterns and to assimilate complex and irregular elements into basic structures. To achieve this requires that learners have a clear understanding of the basic structures. The implication is that when teachers start giving spelling tests, the amount of phonics knowledge learners possess will have a significant impact on their strategy use. In addition, how vocabulary is tested will inevitably affect learners learning patterns because it will impact on their strategy use. Interview questions 22 to 24 were formulated to collect information on these issues. Teacher responses to question 22 indicated that in general the amount of phonics knowledge learners possessed was not the main consideration in their decision on when to give spelling tests. Two of the teachers believed that spelling tests can be given after the sounds of A to Z are taught. Three gave spelling tests after learners' had had one year's exposure to written words, and three only gave spelling tests to older learners. It

appears that age and the frequency of exposure to written words were considered as a more important factor in learners' ability to spell than the amount of phonics knowledge learners possessed, as the following extracts illustrate:

> *"I think it has to do with age rather than phonics skills. I think because phonics doesn't help learners to spell every word; a lot of words actually rely on learners having high frequency of exposure to memorize…If a student sees a word often enough, he doesn't need phonics knowledge to write it down upon hearing it. Year 5 or 6 learners will, in principle, have had more exposure to words, so word spelling will not take them too much effort …I suppose phonics knowledge is important but it's not the only factor." (T4)*

> *"I know there are many different opinions but I think if we wait until they've learned most of the rules, it is far too late. For example, it takes us one year to finish teaching the sounds of A to Z. Do we really have to wait until we finish teaching the sound of 'ar' before we ask them to remember how to spell the word 'car'? The truth is it's such an easy word and they have seen the word so often, so why should we wait?" (T5)*

> *"Now whenever we listen to a CD or whenever students listen to me, the words are there for them to see, so I think they can memorize the*

words as if remembering a picture image. Whenever I do listening or speaking practice, I always make sure that their finger is following the words. I think it's a kind of stimulation; they might naturally memorize the words through this process." (T7)

The nature of English orthography and the external pressure from parents or school were cited as reasons why teachers started spelling irrespective of learners' phonics knowledge. When their methods of testing vocabulary were sought, seven of the teachers reported using dictation tests. One of the teachers indicated that in order to reinforce learners' awareness of word meaning, she required learners to write down word meaning in Chinese in dictation tests. Spelling words according to pictures given was used by five of the teachers. One teacher adopted a different method for testing the vocabulary from the key content (pictures) and the vocabulary in the phonics section (dictation). One teacher gave year 3 and year 4 learners multiple choice and year 5 and 6 learners dictation tests. All eight teachers only tested learners on words from the textbooks. The teachers who allocated the interview more time were asked an additional probing question regarding their opinions on giving learners untaught words to sound out or to spell as a means of testing their phonics knowledge. These teachers were resistant to the measure, believing either that it would only benefit learners attending private institutes or that parents and students would rebel against it.

When asked how they scored students' spelling mistakes (Q24), a zero tolerance attitude was evident from all teachers; no points would be awarded if a single-letter error was made. However, when asked whether they considered the spelling mistake 'brithday' a more serious one than 'burthday', all the teachers identified the former as less acceptable for the reason that phonics knowledge had not been applied in the spelling process. T8's comment demonstrates this stance:

> *"If it were me, both would be wrong and wouldn't get any points but I can accept the second one (burthday) because it shows that the student clearly has more idea of how the rules work. I think students should at least try sounding out the words they spell to make sure they spell them correctly." (8)*

Discussion

Despite the teachers' knowledge of the benefits of phonics knowledge in promoting learners' spelling ability, the amount of phonics knowledge learners possess did not form the major consideration of the teachers' decision on when to give spelling tests. Given that key vocabulary was taught before learners acquired the relevant phonics knowledge, their decision is understandable. It nonetheless implies that learners may have to rely on strategies other than or in addition to phonics to memorize and spell words. As the teachers were conscious of the fact that learners only possessed partial knowledge of phonics, presumably, they

would be inclined to accept spelling errors that indicated the use of other strategies. However, their opinions on the two spelling errors of ‘birthday’ suggest that they placed learners’ ability to spell words using phonics knowledge over other considerations. For although the misspelling of ‘burthday’ demonstrates signs of the application of phonics knowledge, it nonetheless suggests that the learner may not even recognize the written word but simply spell the words according to the sounds given; the misspelling of ‘brithday’, on the other hand, implies that the learner made effort to memorize the spelling of the written word but without resorting to phonics knowledge. The teachers’ preoccupation with learners’ ability to spell according to word sounds also shows in the fact that a majority of the teachers gave dictation tests. As the learners were only tested on words that had been taught and with only partial knowledge of phonics, it is possible that even in diction test learners may not resort to phonics strategy. In addition, as the teachers also demonstrate low tolerance for any spelling errors, some learners may resort to strategies such as letter-name repetition which is inefficient but may guarantee a higher accuracy rate. Feuerstein (1991) believes that teachers as mediators play a fundamental role in selecting and shaping learning experiences (cited in Williams & Burden, 1997). In an assessment driven culture such as Taiwan’s, the requirement for correct spellings and the regular testing of spellings by teachers may encourage methods of word remembering that students are more familiar with and therefore view as more reliable (i.e., the L1 methods: in Taiwan, repetition and visual-orthographic).

It is beyond the scope of the current study to speculate on the extent to which Taiwanese parents are involved with their children's EFL literacy learning at home or whether the parents are aware of the skill set that phonics teaching comprises, but they nonetheless exert a powerful influence on what teachers do. It is evident from teachers' responses that the social context in which teaching takes place, including parental expectations, plays a role in shaping teachers' instructional practices.

5.8 Research question 3d

To what extent are the teachers aware of the efficacy of phonics instruction? Are they satisfied with outcomes?

Results

Interview questions 25 to 28 were formulated to elicit information on teachers' observations of the efficacy of phonics. When asked whether those students who had learned phonics were always able to sound out new words accurately (Q25), all eight teachers indicated that they had not had opportunities to observe as learners were rarely asked to sound out new words before they were taught due to time constraints. Four of the teachers, however, believed that accuracy might still be a problem. The reasons given include learners' difficulty in figuring out the stress patterns of new words (T1) and problems with the vowel sounds (T6) and the irregularity of English language (T3). One of the teachers pointed out that even if learners' were taught phonics, they couldn't always remember the rules.

Two of the teachers believed that only students attending private institutes would be able to sound out new words accurately. However, they also acknowledged a potential difficulty in judging the efficacy of phonics as words they considered new may not actually be new to the learners. All teachers reported seeing students using Zhu-Yin-Fu-Hao or Chinese characters to note down the sounds of words to remind them of the sounds (Q26). Three went on to emphasize that this was only prevalent among low achievers. When their attitudes were sought, seven of the teachers indicated that they accepted students' needs to adopt such a measure, but also stressed that it was not a practice they would encourage on the basis that not all Chinese sounds are equivalent to English ones. T4's comments on the issue illustrate this viewpoint:

> *"Yes. Because those students who do so are mostly students who don't learn English well. I think the fact they use Zhu-Yin-Fu-Hao shows that they really want to learn but they can't remember the sounds of the words. Of course, I don't encourage it but if using Zhu-Yin-Fu-Hao can help them learn, I think it's a good thing. I think at least they are trying hard. I don't encourage it because it's not accurate. After all, many of the Zhu-Yin-Fu-Hao sounds are not equivalent English sounds. I will still correct them but I approve of their intention." (T4)*

All the teachers were also aware of the spelling strategies their learners adopted, as shown by their responses to Q27. These showed that rote memorization for

learning spelling, which they defined as using letter name repetition or visual memory, was the most prevalent method, although four of the teachers believed that learners' phonics knowledge may play some role in spelling. In general, though, most of the teachers were critical of the learners' approaches to spelling. There was a sense of frustration in some of the teachers' replies:

> ***S:*** *I just wonder if they have to deal with words that they haven't learned the rules of…what other methods can they use?*
>
> ***T5:*** *But the problem is they don't even use their phonics knowledge to spell a word like 'cat'! They just somewhat get into the habit of going for the quickest way. (T5)*

> *"Many still do that by rote but I think phonics may still have some effect. It's just that students seem to have the habit of memorizing things by repeatedly saying them; it's a habit that dies hard" (T8)*

Contextual factors were cited by some teachers as the reason behind learners' reluctance or inability to apply their phonics knowledge in spelling:

> *"I think children these days have so little time. They have to go to private institutes to learn all sorts of things after school and there are so many tests. They don't really have time to think and be flexible, so there are many students who prefer using methods such as repeating letter*

names." (T3)

When questioned as to whether they were happy with the efficacy of phonics instruction (Q28), only one of the eight teachers affirmed that they were. Two of the teachers found the effect difficult to judge as there were no suitable measures to assess learners' phonics knowledge:

> *"Now thinking about it, we don't really assess how well phonics works. We give tests, yes, but we don't really know whether students do well because of phonics or not. So, I can't find a suitable answer to the question." (T6)*

> *"To be honest, it's really hard to judge the effect. I suppose it has some effect…The thing is with students nowadays you know they've learned the words but whether phonics helps in some way or not, you can't tell." (T7)*

Five of the teachers expressed dissatisfaction with learners' performance. The reasons given included learners knowing the rules but unable to apply them (T2), learners not using the knowledge (T2, T8), using phonics to read but unable to apply it in spelling (T3) or simply being unable to remember the rules. Reasons for these failings included limited class time, large classes, parental interference and the impact of private institutes.

Discussion

As previously discussed, because learners had little chance to apply their phonics knowledge, the efficacy of phonics had not been tested. Consequently, as all the teachers acknowledged, they could not judge how phonics worked in helping learners to pronounce new words. Although a list of potential problems had been identified by some of the teachers, without engaging learners in the actual learning task, it is hard to detect all the problems as well as benefits of phonics teaching for Taiwanese EFL learners. Although giving learners untaught words to sound out or spell would allow a more realistic indication of learners spelling strategy use, as shown in their previous responses, the idea of giving anything new to test learners was rejected by the teachers interviewed on account of potential resistance from parents and students and learners' mixed-abilities.

The fact that all the teachers had seen learners using Chinese phonemic symbols or characters to note down the sounds of words, however, suggests that some learners were unable to rely on phonics to retrieve sounds of words. That young Taiwanese EFL learners resorted to different strategies is understandable. For a start, phonics teaching is spread over the entire primary school English curriculum and despite the length of time it took, none of the textbooks covered all of the common sound-letter correspondences in English. In addition, phonics, written and spoken forms were taught more or less simultaneously, which means key words were taught before the relevant phonics rules were taught. Further, as some of the teachers reflected, learners could not always remember the rules.

Despite the teachers' belief that phonics is easier, the time and effort needed to establish the numerous sound-letter links required to permit phonics to function as an adequate pronunciation tool can potentially exceed the effort required to memorize the 41 K.K. phonemic symbols. Finally, learners received little independent decoding and encoding practice. All these factors placed learners in a circumstance where relying on their phonics knowledge was not always a choice. Albeit with dissatisfaction, the acceptance of the majority of the teachers of learners' use of alternative strategies may be an indication of their acknowledgement of the learners' predicament. However, despite this, all the factors may have also contributed to the observed spelling strategy use and phonics related performances which caused most of the teachers to feel dissatisfied with the efficacy of phonics teaching for Taiwanese EFL learners. This did not prompt teachers to consider that learners may need an alternative system such as K.K. which would enable them to note down the sounds of unfamiliar words or that a different approach to teach phonics may be required. In general, the teachers possess high regard for phonics teaching and yet there was a general lack of confidence in Taiwanese learners' ability to function well with phonics seen throughout the interviews.

5.9 Summary findings and conclusion

The teacher interviews aim to investigate teachers' knowledge, perceptions, beliefs and attitudes related to phonics teaching and English literacy as well as

the role of phonics in the teaching process. With the former, the results indicate that all the teachers described phonics as a pronunciation system that was also useful for spelling. The majority did not believe that phonics played a significant role in reading for meaning. The teachers spoke favorably of phonics, but with reservations focused around the irregular nature of English orthography. In general, the teachers believed that K.K. was superior to phonics as a pronunciation system but felt that the K.K. symbols could be confused with the letters of the alphabet by younger learners and so were reluctant to use it.

All teachers endorsed the textbooks' approach of teaching phonics immediately after learners have learned the alphabet. They saw linking the order of teaching of phonics rules to the lesson content as impractical and hence accepted that key vocabulary should be learnt without the relevant phonics knowledge. In general, the teachers identified phonics as a tool that in principle could be used to self-teach the pronunciation of new words but they did not believe their learners could / would do this.

With respect to their teaching approach, all but one teacher taught the spoken form of new words first and all but one of these indicated that they taught written words via a 'look and say' method. Learners were rarely asked to apply their phonics knowledge to sound out new words. Indeed, they were rarely asked to apply their phonics knowledge independently. Teachers were frustrated at students' reluctance or inability to apply phonics and as a result only one of the

eight teachers was happy with its efficacy. Spellings were tested largely using dictation tests although showing pictures was also a common method. The students who attend private institutes for extra English tuition are as a group significantly better users / readers of English and this makes it difficult for the teachers to plan appropriate input. The lack of time available and parents' expectation that teachers start teaching reading and writing early were also noted effectors of the role of phonics in the teaching process.

The results of the teacher interviews demonstrate the complexity involved in carrying out a new literacy approach that is traditionally designed for L1 learners. What manifests strongly in the interviews is the socially constructed nature of literacy learning. The wider context within which the teachers operate plays a major part in their conceptualizations of what constitutes appropriate teaching practice according to socially-defined criteria. The teachers teach literacy in English the way they consider most appropriate for young Taiwanese learners. Consequently, phonics takes on a different role in the teaching process and this influences young Taiwanese learners' strategic orientations to literacy learning. Sociocultural theory places strong emphasis on the interdependence of the cognitive and social-interactive dimensions of the learning process and the teacher interviews demonstrate that classroom language instruction is culturally situated and this dimension of teaching plays a crucial role in shaping learners' cognitive development.

Chapter 6 Student Questionnaire

This chapter presents the results and discussion of the student questionnaire. The questionnaire allowed the collection of a large amount of data that served to complement the findings of the teacher interviews by enabling a comparison of student and teacher perceptions and beliefs. Responses to the questionnaire are discussed in relation to research question 4a, 4b and 4c. Note that responses of ‘strongly agree’ and ‘agree’ are combined in the discussion as positive responses and ‘strongly disagree’ and ‘disagree’ as negative responses accordingly. The number of responses under ‘other’ was small and failed to show adequate consistency for reliable conclusions to be drawn. Appendix 6.1 lists the responses to all questionnaire items.

R4. Learners’ perceptions, beliefs and attitudes related to phonics and English literacy

a) What do students understand of phonics?

b) What do learners’ perceptions of and attitudes toward reading in English imply about the efficacy of phonics?

c) How do young Taiwanese learners evaluate their own learning performance on word reading and spelling?

6. 1 Research Question 4a

What do students understand of phonics?

Results of Q1-Q7

Questions 1 to 7 on the questionnaire were designed to determine what students understand of phonics. Table 6.1 lists the percentage distribution of the responses.

Table 6.1 Percentage distribution of responses to Q1-7 and mean agreement (1-5)

Questionnaire item	strongly disagree	disagree	not sure	agree	strongly agree	mean agreement score
Q1 pronunciation system	3.3	6	17.4	48.8	28.8	3.84
Q2 read new words	8	25.1	21.7	32.6	12.1	3.16
Q3 phonics & K.K.	6.2	19.7	24.3	37	12	3.29
Q4 no need for K.K	23.1	40.5	19.2	11.5	5.3	2.35
Q5 sounds of letters	10.5	22.5	20.8	31.5	14.7	3.17
Q6 phonics & reading	28.1	45	14.9	8.9	2.8	2.12
Q7 phonics & spelling	1.5	7	14.2	51.7	25.5	3.93

Responses to Q1 demonstrated a broad consensus of opinion among the participants on what phonics is. Approximately 77.6% (mean agreement score= 3.84) of the participants believed phonics to be a pronunciation system. However, despite this, only 44.7% of participants indicated that phonics enabled new words to be read correctly independently (Q2) and only 49% believed that phonics served the same function as K.K. (Q3). It is also notable that the participants also demonstrated a relatively high degree of uncertainty over Q2 and Q3. When asked whether the teaching of K.K. could be eliminated if students were well-equipped with phonics knowledge (Q4), only 16.8% of participants agreed. Regarding the relationship between sound-letter knowledge and phonics

instruction (Q5), 46.2% of participants believed that without phonics instruction, students would not know what sounds letters make. Regarding the relationship between phonics and reading (Q6), the majority of the learners (73.1%) did not think that knowledge of phonics helped them understand new text independently. As for the relationship between phonics and spelling (Q7), however, the majority of participants (77.2%) believed that phonics knowledge made memorizing word spelling an easier task.

Overall, it appears that the majority of the learners perceived phonics to be a pronunciation system but they were not overly confident in its efficiency in this role. To a certain extent, they recognized that phonics serves the same function as K.K. but were conscious of the differences between the two systems. What is surprising, though, is that contrary to the intention of the Taiwanese government, the majority of the learners did not view phonics as an adequate replacement for K.K., as reflected in their responses to Q4. It is also clear from the results that the majority of the learners did not consider phonics enabled them to gain automatic access to meaning. In other words, to them, there did not appear to be a clear link between phonics and reading. They were, however, certain of the beneficial effect of phonics knowledge on their spelling competence.

Discussion Q1-Q2 & Q6

How the learners viewed phonics is perhaps a reflection of their learning experience. All learners are products of the context they are in. Hall's (2002) study

demonstrated how beliefs about and attitudes toward literacy learning are constructed thorugh classroom discourse. It is not surprising that the majority of the learners perceived phonics to be a pronunciation system as this view is also shared by most of the teachers interviewed. To a certain extent, therefore, the learners may be affected by how phonics was represented and taught in class. The textbook analysis performed as part of this research reveals that the teaching of phonics in primary schools in Taiwan is in effect the teaching of sound-letter links. However, the words given to practice are often either words that did not exist in learners' oral repertoire or words of which only a part could be converted to sounds with their limited phonics knowledge. Phonics is indeed taught simply as a tool to gain access to word sounds without the benefit of automatic activation of meaning that English L1 learners in general experience with phonics instruction. That may also explain why most of the learners did not view phonics as bearing much relationship to reading comprehension. Their opinions on the efficacy of phonics in helping to read words correctly, however, were more or less evenly divided. The fact that approximately half of the learners either disagreed or were uncertain as to whether phonics enabled accurate sounding out of words indicates that they may be conscious of the semi-arbitrary nature of the English writing system. It may be that some learners, after several years of exposure to English print, realize that the same sounds can be linked to several different spellings and that because of this, working out what sound a letter or letters make without guidance can still be challenging even with adequate phonics knowledge. Nevertheless, vocabulary is typically taught via a whole word approach, meaning

that learners are not often given opportunities to apply their phonics knowledge to sound out words independently. This whole word learning does mean, however, that later, when relevant phonics rules are taught, learners can apply their knowledge of word-sounds to confirm and reinforce their phonics knowledge. Thus, phonics may appear to be working as an adequate pronunciation tool. To take an example, *o_e* in the word ‘globe’ could potentially be pronounced as /o/ as in ‘rose’, /ʌ/ as in ‘love’ or /ʊ/ as in ‘lose’. If learners are requested to sound out the word ‘globe’ independently before it is taught, they may experience difficulty in deciding which of the potential sounds of *o_e* the letters make. Conversely, if learners are exposed to the sounds of the word ‘globe’ repeatedly without having to go through the decision making process of selecting a sound among the potential sounds for *o_e* themselves, the insufficiency of phonics may not be apparent to all learners. That may be the reason why approximately half of the participants believed in the efficacy of phonics for indicating accurate word sounds. Once again, this outcome begs the question of whether, in a teaching model where a whole word approach is used as the main instructional practice and where learners are rarely challenged with unknown words, learners, even with adequate phonics knowledge, actually go through the process of dividing words into appropriate segments, converting them to sounds and blending the sounds to pronounce words. Although the current study does not allow any definite conclusion to be drawn, the results of the questionnaire do suggest that learners’ application of phonics may be limited under the current system.

Discussion-Q3-Q5

When junior high school was the venue for the start of the English curriculum, K.K. phonetic symbols were taught from the start as a compulsory part of that curriculum. However, when English was introduced into the primary school curriculum in 2001, there was no requirement to teach K.K. phonetic symbols. The inclusion of phonics, which had never been taught to junior high school students, into the primary school English curriculum was often interpreted as a replacement for K.K. A great many books available in the market now are devoted to how the two systems can be taught to complement each other, making K.K. and phonics appear to be two different systems that both serve the same function but imperfectly if used alone. As reflected in the teacher interview, a commonly recognized advantage of phonics over K.K. is that whereas phonics allows direct access to word sounds from print, learners of K.K. rely on K.K. symbols being provided alongside written words to pronounce new words. That is, K.K. is simply a medium which has to be present if its learners are to know how a new print word is read. On the other hand, while K.K. enables learners to accurately sound out all new words, irrespective of their regularity, how phoneme-grapheme consistent a word is affects phonics learners' ability to sound it out to a great extent. As participants in the study were exposed to various degrees of out of school English tuition, it is not clear to what extent participants knew K.K. However, although greatly reduced, the use of K.K. in junior high school is still very prevalent. Hence, it is assumed that participants possess some basic understanding of K.K. and its function. The fact that while the majority of participants believed phonics to be a

pronunciation system and only slightly less than half believed that phonics and K.K. served the same function indicates that participants may be conscious that the two systems work differently. Likewise, the fact that a great majority of participants believed that the acquisition of K.K. symbols was necessary also suggests that they may be aware of the advantage of K.K. over phonics. However, their responses to Q5 suggest that being non-users of K.K., the majority of the learners may not be aware that knowledge of sound-letter links can be obtained when K.K. symbols are provided alongside words. It may also suggest that as new words are predominately taught through the whole word approach, some learners may indeed acquire the words as a whole without processing the letter components. Hence, they were not conscious of the possibility that letter-sound associations can be inferred without direct teaching of phonics.

Discussion- Q7

Participants' awareness of the beneficial effect of phonics knowledge on their ability to spell English words may also be the result of their learning experience. In Taiwan, learners' ability to spell words correctly is one skill that is highly regarded and is frequently tested. Hence, committing word spelling to memory is a regular practice. Though in the English writing system a particular phoneme may be associated with a number of different letters in different words (Hanley & Kay, 1992; Thompson, 1999), the knowledge of sound-letter correspondences does contribute to limit the possible spellings. In addition, as learners are generally only tested on words that have been taught, sound-letter knowledge and phonological

processing skills acquired through phonics can greatly reduce the demand for memorizing word spellings. Combine this with the use of visual memory, and most learners are capable of converting a string of familiar sounds into its written form with great accuracy. Learners may still be challenged with less phoneme-grapheme consistent words; nonetheless, the beneficial effect of phonics knowledge on spelling is unquestionable. However, knowing the benefit of phonics on spelling does not necessarily equate to the ability to apply the knowledge. As reflected in the teacher interviews, alternative strategy use was prevalent amongst learners.

In order to investigate whether length of prior interaction with English (i.e. years of study), gender, and regional differences impacted perceptions of phonics, Pearson correlation was performed on the data. It was found that differences in these background variables did not produce a significant difference in perceptions ($p > 0.05$).

6.2 Research question 4b

What do learners' perceptions of and attitudes toward reading in English imply about the efficacy of phonics?

Results of Q8 to Q14

Having assessed learner perceptions and beliefs about phonics, further investigation focused on participants' general attitudes toward and perceptions of

English literacy. Q8 to Q14 on the questionnaire were designed to address this aspect of the investigation and the responses to these questions are summarized in Table 6.2.

Table 6.2 Percentage distribution of responses to Q8 to Q14 and mean agreement (1-5)

Questionnaire item	strongly disagree	disagree	not sure	agree	strongly agree	mean agreement score
Q8 meaning and sounds	7.3	20.1	18.6	35.3	18.2	3.37
Q9 reading and speaking	11.9	29.5	21.9	24.3	11.7	2.94
Q10 reading incentives	6.4	11.7	13	43.3	25.3	3.7
Q11 like English reading	16	46.9	16.4	11.3	9.3	2.61
Q12 like Chinese reading	2.1	3.6	4.6	35.7	53.8	4.36
Q13 teach all new words	6.2	12	13.8	41.1	26.3	3.7
Q14 teach reading content	4.2	7.1	8.4	47.4	32.3	3.97

Approximately 53.5% (mean agreement score = 3.37) of participants believed that knowing the meaning of a word is more important than knowing how it is read (Q8). Interestingly, however, only 36% indicated that the ability to read in English is more important than the ability to speak (Q9). When asked their motivations for reading in English (Q10), 68.6% of the learners acknowledged that they only read in English when they wanted to practice or improve their English. Only 20.6% of participants reported enjoying reading in English (Q11). However, their lack of interest in reading in English does not reflect their attitude toward reading in general as a great majority of the participants (89.5%) reported enjoying reading in Chinese (Q12). As for assigning text reading for homework, while 67.4% of the

learners believed that if a piece of reading was to be assigned as homework all the new words in the text should be taught (Q13), 79.7% of the learners believed that they should be informed of the content before the actual reading took place (Q14).

Overall, the results suggest that the participants found reading in English a very challenging activity. Very few students reported enjoying it and most believed that they should receive significant support (in the form of pre-teaching) to do it. Their responses to Q12, Q13 and Q14 suggested that reading in English was viewed as a means to practicing language skills instead of gaining knowledge or simply for pleasure. Neither did it occur to them to take an active part in learning new words. In general, their responses reflected the attitudes found in the teachers interviewed. The learners showed an inclination to rely on teachers as the sole source of their English knowledge and appeared to be the passive learners described by the teachers. How might these learner-specific perceptions and attitudes affect the role phonics plays in their literacy acquisition?

Discussion: Q8-Q14

Phonics is said to enable the self-teaching mechanism inherent in an alphabetic language (Gough & Hiller, 1980). Indeed there is a strong theoretical argument for and empirical evidence in support of phonics instruction in facilitating reading development in English L1 learners. It is claimed that if a printed word is unfamiliar, knowledge of the sound-letter correspondence serves to link the print to its

spoken entry in the mental lexicon (Thompson, 1999). Learners are therefore able to attempt new words on their own and, moreover, with subsequent exposure to the words, they would be able to establish the links of the written words to the existing spoken form and meanings in their long-term memory (Share, 1995). However, for Taiwanese EFL learners, the absence of a well-developed spoken system means that even if an unfamiliar word can be successfully decoded, in most cases, there may not be an entry in the mental lexicon to be activated. Hence unlike English L1 learners, to whom the conversion of letters to sounds may eventually become one of the major strategies they apply to gain access to meaning in print, young Taiwanese EFL learners may not adopt print decoding as a regular practice to obtain meaning. As most of the learners are still at the early stage of their English literacy acquisition, with limited knowledge of English, they need to rely on external sources (i.e. a teacher or dictionary) to assist them to comprehend text. Limited knowledge of English may be the reason why a high percentage of participants deemed it necessary for teachers to teach all new words or inform the content of any new text they were required to read independently. For Taiwanese EFL learners, the act of reading in English involves far more than simply decoding the printed words. To achieve a sufficient level of understanding without relying on external sources, they need to establish the links between text and meaning for most words as well as acquire all relevant syntactic rules before the actual reading takes place. That is, the texts that they read need to contain mostly familiar words. According to dual route theories (Coltheart, Curtis, Atkins & Haller, 1993), familiar or high frequency words are individually

coded within the lexicon; hence, orthographic processes rather than phonological processes are relied upon for recognition. In other words, the learners do not need to undergo letter-to-sound conversion to access the meaning, indicating that whether the learners possess phonics knowledge may be irrelevant to their ability to comprehend text.

In addition, for most of the reading materials the learners were assigned to read, comprehension may be in effect irrelevant. As reflected in the teacher interviews, most texts assigned to be read were texts that were already taught and explained, most of the reading assignments were intended to further reinforce the learners' knowledge of the vocabulary and grammatical rules. That is, the learners may be more conscious of the language use than the content. Consequently, as reflected in their response to Q10, Q11 and Q12, most of the learners rely on instrumental motivation to approach reading in English, which was not generally viewed as a pleasurable experience, albeit having genuine interest in reading in Chinese.

It is not to say, however, that young Taiwanese EFL learners are not capable of self-teaching with the help of phonics. As already discussed in the previous chapter, provided that reading materials are appropriate to their level and that they can easily infer the meaning of new words via contextual clues in the text, phonics can be a means by which learners acquire the sounds of new words, allowing new words to form new entries in their spoken repertoire. However, as successful inference of word meaning is sufficient to allow learners to proceed

with reading, it is unclear whether for skilled phonics users the conversion of letter-to-sound is an automatic process or requires deliberate effort on the learners' part to obtain meaning of new print words. It is reasonable to assume that if learners view the acquisition of word sounds as equally important as the acquisition of word meaning when reading a new text, they may exert effort on sounding out new words as well as committing the sounds to memory, allowing phonics to play a significant role in the self-teaching process. The learners' responses to Q8, however, indicate that most of the participants valued knowledge of word meaning over word sounds, suggesting that the application of their phonics knowledge in the self-teaching process may be limited.

Pearson correlation was again performed on the three background variables of length of prior interaction with English, gender, and regional differences and none was found to have a significant impact on learners' perceptions of and attitudes toward reading in English ($p > 0.05$).

6.3 Research Question 4c

How do young Taiwanese learners evaluate their own learning performance on word reading and spelling?

Results of Q15-Q25

Q15 to Q23 were designed to elicit information on how learners evaluate their ability to sound out words and Q24-25 aimed to provide insight into their spelling

strategies. Table 6.3 lists the percentage distribution of responses to Q15 to Q24 and mean agreement while Table 6.4 lists the percentage distribution of responses to Q25.

Table 6.3 Percentage distribution of responses to Q15 to Q24 and mean agreement (1-5)

Questionnaire item	strongly disagree	disagree	not sure	agree	strongly agree	mean agreement score
Q15 sound-letter links	6.6	15.2	12	47.6	18.2	3.56
Q16 learn phonics well	11.8	20.4	27.9	28.1	11.8	3.08
Q17 read new word easily	17	36.6	11.7	24.7	10	2.74
Q18 certain of new word sounds	21.8	45.2	11.9	14.8	6.3	2.39
Q19 remember new word sounds	9.1	17.9	24.6	31.8	16.4	3.29
Q20 used ZYFH	28.2	14.1	7	33.8	16.9	3.11
Q21 still use ZYFH	36.6	26.8	5.6	26.8	4.2	2.60
Q22 unfamiliar text	5.7	15.7	4.3	54.3	20	3.67
Q23 familiar text	5.6	41.9	14.9	22.1	15.5	2.97
Q24 spell unknown words	7.5	13.1	22.3	37.2	19.9	3.49

Table 6.4 Percentage distribution of responses to Q25

Questionnaire item	Letter name repetition	Repeatedly copy words	Word repetition	Visual memory	Applying phonics knowledge	others
Q25 spelling methods	66.1	53.8	69.3	65.9	50.1	5.37

Responses to Q15 showed that approximately 65.8% (mean agreement score = 3.56) of the learners believed that they know all the sound-letter correspondences of English. However, when asked if they learned phonics well (Q16), only 39.9%

answered positively. It is also noteworthy that the number of learners who were unable to give a definite answer to the question was the highest of all the questions. Regarding their ability to sound out new words (Q17 & Q18), only 34.7% of learners indicated that they found reading new words an easy task (Q17), and an even lower percentage (21.1%) believed in their ability to sound out new words accurately (Q18). Of all the questions, Q18 also elicited the highest percentage disagreement (77%). When asked if they could often remember the sounds of new vocabulary after it was taught (Q19), 48.2% of the learners responded positively and 27% indicated otherwise. As for the role Zhu-Yin-Fu-Hao played in their English literacy acquisition, the responses to Q20 and Q21 indicated that 50.7% of the learners had used Zhu-Yin-Fu-Hao to mark the sounds of words and 31% of the learners were still using the strategy at the time of the study. Regarding the role phonics plays in text reading, whereas 74.3% of the participants indicated using phonics in reading unfamiliar texts (Q22), only 37.6% reported sounding out words in dealing with familiar texts (Q23). When asked if they could spell dictated unknown words using their phonics knowledge (Q24), 57% of the learners responded positively. Of the strategies they apply to memorize word spelling (Q25), word repetition (69.3%) and repeating letter names (66.1%,) scored highest, followed by the use of visual memory (55.9%) and repeatedly copying words (53.8%), with phonics reported as used by only 40% of participants to remember spellings.

Discussion: Q15-Q18

The discrepancies between the participants' perceptions of different aspects of their letter sound knowledge and phonics skill seem to indicate that either consciously or subconsciously they were aware of the fact that phonics was more than knowing letter-sound relationships. What it may suggest is that the participants may be aware of the differences between knowledge and practice. In other words, they were conscious of the fact that possessing the letter-sound knowledge did not amount to the ability to apply the knowledge successfully in practice. Indeed as native learners of Chinese, learning to sound out words in English presents a few challenges. First, the ability to segment and assemble sounds with smaller units than those of their native language is a skill they have to develop either along with or prior to phonics instruction. For some learners mastering the skill may present difficulties. In addition, even if endowed with excellent sound-letter knowledge, the participants may still have difficulty to correctly divide a new word into parts to be converted to sounds. For example, the word 'garage' could be divided into 'ga-ra-ge' 'gar-age' or 'ga-rage'. The different ways of segmenting the word can potentially lead to different pronunciations. Except for words that are generated from words that the learners have already learned (such as 'reader' from 'read'), there are neither reliable clues nor rules for the learners to follow to segment new words. Moreover, the nature of English orthography presents another challenge. As previously mentioned, the relationship between the pronunciation of the spoken language and the alphabetic script of the written language is complex. A particular phoneme may be

associated with a number of different letters in different words. Hence, even with sufficient phonics knowledge, the learners may still experience both success and failure in applying their letter-sound knowledge in their interaction with unknown words. Even if most learners succeeded more frequently than not, the occasional failure of sounding out irregular or even supposedly regular words correctly would be sufficient to cause frustration and negative self-perceptions of ability in some learners. English orthography may be equally challenging for L1 learners, but they have the benefit of spoken language and context cues as a compensatory mechanism, making minimal print cues more useful in word recognition. Not possessing spoken language means that all these strategies were unavailable to the participants and the consequent difficulties may be the reason why a relatively high percentage of learners were uncertain of their phonics skill and why such a low percentage were confident in using phonics to sound out new words and an even lower percentage were confident of doing it accurately. However, as phonics is highly promoted in Taiwan and teachers in general are enthusiastic about phonics instruction, whether most learners were conscious of the insufficiency of phonics in dealing with English orthography or simply attributed their mistakes to their lack of phonics knowledge or skill awaits research specification.

Discussion: Q19-Q21

The fact that only approximately half of the participants reported being able to remember the sounds of all new vocabulary after they were taught may also be attributable to the complexity of English orthography. The limited time available in

a foreign language classroom does not always provide sufficient exposure to the sounds of words for learners to build up links between sounds and their written forms. For vocabulary that has more consistent sound-letter relationships, the learners may be able to apply their phonics knowledge to establish and reinforce the auditory memory of the words, making the words more memorable. However, with less regular words, the learners cannot rely solely on phonics to retrieve word sounds. A direct match between written forms of these words and their sounds needs to be established. That is, irregular words may have to be acquired by sight as a chunk via the orthographic route of processing. Sufficient exposure is crucial for such a process and yet limited class time means that relying only on frequency of exposure to retain auditory memory of irregular words is not always viable. In the absence of ample exposure, strategies that enable learners to mark down the sounds of words for future reference become necessary. K.K. can perform this function but as the teaching of K.K. phonetic symbols is excluded from the primary school English education Zhu-Yin-Fu-Hao, albeit inadequate, is the only phonetic system readily available to most of the participants.

Before any further discussion, it is important to bear in mind that the decision on what counts as regular and what counts as irregular for any particular group of EFL learners is an extremely difficult one. First, how phonics is taught and how English lessons are arranged affects how consistent new vocabulary appears to learners. The results of the text book analysis revealed that phonics rules were not taught in accordance with the key vocabulary of the lesson. Consequently, the

learners were not always provided with sufficient phonics knowledge when they processed the key vocabulary, making what may be categorized as words with regular spellings appear to them to be irregular. For example, for learners who had learned only that the letter *e* corresponds to the sound /ɛ/ and 'o' to /ɑ/, a word such as 'zero' may appear irregular. In addition, the learners varied in the phonics knowledge they possessed as well as length of exposure to English print, hence what counted as regular words for some were considered irregular by others. The more printed words a learner acquires, the more regular English orthography may appear to them as more vocabulary can be used as a basis from which to infer sounds of new words more accurately, reducing the need to rely on alternative strategies. However, as most primary school learners are at the initial stage of their English literacy acquisition, with limited knowledge and exposure to English orthography, their ability to make such associations is greatly restricted. It may be because of this that more than half of the participants reported having used Zhu-Yin-Fu-Hao to mark down the sounds of new vocabulary and 30% reported still using the strategy.

Discussion: Q22-Q23

The discrepancies between the participants' use of phonics with familiar and unfamiliar texts seemed to correspond to the dual route model of reading which claims that learners use phonological processing to identify unfamiliar words and orthographic processing for the recognition of familiar words. As reflected in the textbooks analysis and teacher interview, typically for young learners in Taiwan,

the acquisition of the spoken form does not precede the written form, meaning that the use of phonological processing to tackle unfamiliar words may have different implications. It may be that participants resort to the phonological route of processing when the orthographic route fails to retrieve meaning from the print. Another possibility is that the participants, having inferred the meanings of new printed words via contextual clues in the text, concentrated their effort on storing the auditory memory of the new vocabulary. The current study does not allow conclusions on the efficacy of such measures to be drawn. Nevertheless, the result suggests that phonics instruction does enable most participants to use phonological processing for unfamiliar text and that there exist different processing strategies for unfamiliar and familiar texts in young Taiwanese learners of English.

Discussion: Q24-Q25

The fact that phonics does indeed contribute to their learning is also reflected in the fact that over half of the participants were confident in their ability to spell dictated unknown words. It appears that when accuracy is not an issue, most of the learners are able to segment a string of sounds into individual phonemes and convert them to letters with great confidence. When spelling real English words, however, the ability to reflect on and manipulate the phonological segments of speech is not sufficient. As already discussed in Chapter 2, spelling depends on the permanent storage of information regarding component letters and their sequence (Henderson & Chard, 1980; Treiman & Bourassa, 2000). Learners

should be able to form, store, and access knowledge about permissible letter patterns as well as having an awareness of the general attributes of the writing system (Vellutino, Scanlon, & Tanzman, 1994). Gholamain and Geva (1999) stated that the application of visual strategies contributes to the acquisition of orthographic knowledge; though how exactly orthographic knowledge is acquired through visual strategies, i.e. whether by rote, analogy, or rule is left unspecified. What is clear, however, is that all learners of English need to use a convergence of strategies. The results of the questionnaire reflect just that.

More than 50% of participants reported using each strategy in Table 6.4, indicating that each participant may use a variety of different strategies. The use of a combination of strategies to commit spellings to memory may be similar to the strategy use of English L1 learners. According to the dual-route model of spelling, known words are spelled using orthographic strategies based on knowledge of the sequence of letters, whereas new words not previously encountered in their written form are recoded using grapheme-phoneme correspondences (Share, 1995; Thompson, 1999). Thus, as young readers are more likely to encounter new words, they rely on the phonological route because using grapheme-to-phoneme conversion rules to decode words provides knowledge about spelling and establishes stored lexical representations of words and phonology (Share, 1995, 1999). For more experienced readers, orthographic processing, which reflects the ability to store and retrieve word-specific orthographic information, becomes more dominant (Martin, Pratt & Fraser, 2000).

It is only less phonologically skilled readers who may initially approach the task as a visual memory one (Stuart & Coltheart, 1988)

However, as most of the participants showed confidence in spelling unknown words, the distribution of strategy use may indicate a profile distinctive to these learners. Repeatedly saying words (69.3%) and repeating letter names (66.1%) scored highest, followed by the use of visual memory (65.9) and repeatedly copying words (53.8%), with phonics (50.1%) reported as the least used strategy to remember spellings. The fact that repeatedly saying words formed the most used strategy reflects the fact that most of the learners did not possess the spoken entries in their lexicon when new words were taught. Hence, it may be that before they stored the print form, most of the participants concentrated their effort on establishing the auditory memory of new vocabulary. Note that knowledge of word sounds is not essential to accurate spelling. It is, however, necessary if a phonological strategy is to be adopted. As visual memory alone is extremely restricting and most learners do possess letter-sound knowledge, and indeed devote attention to commit word sounds to memory, the high use of visual memory and letter names may not be the result of lack of phonological skill but instead a conscious or automated choice. It may be possible that learners alternate their strategy use according to the task in hand. In other words, their strategy choice may depend on the length, regularity and familiarity level of the vocabulary as well as the purpose of remembering the spelling - whether it is for a dictation test, non-dictation test or simply for writing up. For words that present

more phonological and spelling complexity, sounding them out is cognitively more demanding and less accurate than repeating letter names. Even when the sounds of words have been taught and memorized, it still requires the use of other strategies (e.g. visual memory) to remember what exactly the letters that make up the sounds are as well as the full letter by letter sequence. Hence, some learners may develop the tendency to repeat letter names as it guarantees complete accuracy and requires only mechanical repetition instead of strenuous mental effort. The tendency to use such time-consuming strategies (e.g. letter name repetition) that guarantee accuracy in spelling rather than efficiency may also be the product of the Taiwanese examination-oriented learning culture that typically places great emphasis on testing. The fact that successful spelling does not require sounding out words may be a factor in participants' not using phonics as much as other strategies.

The limited time available in a foreign language classroom does not always allow for sufficient exposure to the sounds of words for learners to build up links between sounds and meanings. Hence, though phonics may enable learners to sound out words independently (although perhaps not accurately), it relies on the learners to apply the skill to build up or consolidate the three-way links between sounds and written words, written words and meanings, and sounds and meanings. In other words, the task is not simply mapping sounds to letters or vice versa, but a whole process of lexical learning. In a non-dictation spelling test, where the focus is on spelling the English word when presented with a picture or

Chinese gloss, knowing how the words sound is not essential. Hence, it may be that some learners choose to concentrate only on the links between meanings and print in their preparation and ignore the link between sounds and meaning, which may or may not have been committed to their memory, resulting in the reduced use of phonics.

The influence of L1 may be another factor contributing to the rather different profile shown by these learners in relation to the strategies they use to commit print to memory. As experienced learners of the Chinese writing system, the participants rely greatly on visual perception and memory to remember Chinese characters. Thus, some learners' responses to print may be conditioned by their experience with their L1 orthography. Copying written words is a common practice that the learners adopt to remember Chinese characters. The motor act of writing is said to be an effective way of learning spelling as it yields a visual as well as kinesthetic record of the word (or character) structure (Hulme & Bradley, 1984). Though the data here does not allow inferences as to what occurred as copying took place (e.g. whether letter names were mentally repeated, words mentally sounded out, or visual perception alone relied upon), the possibility of an L1 influence cannot be ruled out. Uncertainty in the minds of the participants in getting the right sounds of the words may be the primary factor contributing to comparatively low use of phonics / sound components of the words by participants in this study. It may be that upon encountering unfamiliar words, (some) participants resorted to strategies they are most familiar with in order to

avoid uncertainty and a more strenuous process.

Pearson correlation was again performed on the background variables and none was found to have a significant effect on participants' application of phonics.

6.4 Summary findings and conclusion

The student questionnaire aims to provide information on learners' perceptions, beliefs and attitudes related to phonics and English literacy. The results show that a majority of the learners (77.6%) believed phonics to be a pronunciation system, but were not confident in its efficacy: only 44.7% indicated that phonics enabled new words to be read correctly independently and only 16.8% believed that phonics was an adequate replacement for K.K. Most of the learners believed that phonics was useful for spelling words. However, a clear majority (73.1%) did not think that it helped them in the understanding of new text. As most of the learners valued comprehension over pronunciation when silent reading, it is unlikely that they sought to apply their phonics knowledge during this activity. The learners overall did not enjoy reading in English and did not expect or want to do it independently, implying that they found reading in English a very challenging activity and one that they were not equipped to face on their own. Approximately two thirds of the learners believed they knew all the sound-letter correspondences of English and yet only one third found reading new words an easy task, and even fewer believed they could sound out new words accurately. Over half of the participants reported feeling confident in spelling dictated unknown words using

their phonics knowledge; however, amongst the list of strategies the learners used to memorize word spelling, phonics is reported to be the least used.

Cortazzi and Jin (1996) noted that classroom learning behaviors are “set within taken-for-granted frameworks of expectations, attitudes, values and beliefs about what constitutes good learning which have their roots in a specific culture (p. 169).” As discussed in Chapter 5, the teachers’ choices of the way English is presented, practiced and activities are organized have their social bases. In Taiwanese EFL contexts, teaching is largely examination-driven. Consequently, reading in English is often an instrument for reinforcing learners’ knoweldge of learned vocabulary and grammatical rules and often involves reading texts that have already been taught in class, making reading in English a task for revision of language knowledge rather than a pleasurable reading-for-meaning experience. Learner perceptions are strongly influenced by the classroom behaviours and instruction described. Indeed, classroom instruction has profound influences on students’ classroom participation, strategic choices, and motivation (Williams & Burden, 1997). According to the student questionnaire, the instruction experienced by the learners in this study resulted in a predominately negative attitude to reading in English. The assessment-driven learning may also affect their reluctance to accept uncertainty and independent engagement with reading unrelated to testing in English. This inevitably affects the extent to which phonics is practiced.

The culture-specific teacher-learner interactive model may also play a role in shaping learners' attitudes toward and perception of phonics. The result of the student questionnaire demonstrated that how the learners view phonics is congruent with the teachers' view and this is because students in Taiwan are on the whole particularly open to teacher influence and direction. Wen and Clement (2003) traced this back to the influence of Chinese Confucian heritage, in which an other-directed submissive way of learning is the driving force shaping Chinese learners' perceptions and learning behaviors in class. Sharing this heritage, Taiwanese learners are under the same influence in which submission to teachers is greatly valued, making learners susceptible recipients of teachers' perceptions and attitudes. The same cultural element may also be behind the learners' tendency to view teachers as the sole source of their English knowledge and their lack of confidence in their ability to self-teach.

Comparison of the outcomes of teacher interviews and the student questionnaire reveal that the culture of learning may be the driving force in shaping young Taiwanese learners' attitudes toward phonics and reading in English as well as the distinctive profiles of their strategy use.

Chapter 7 Diagnostic tests and tasks

The diagnostic tests and tasks served to provide further empirical data relevant to the issue of phonics and other strategy use and also addressed the questions regarding the extent to which phonics is applied in the process of spelling, self-teaching, reading and what might be the underlying factors that determine the overall patterns of strategy use in young Taiwanese learners of English. The findings enabled triangulation with the learners' self-reported strategies in the questionnaire and the construction of a strategy profile for young Taiwanese learners of English. The tests and tasks addressed the following research questions:

R 5 Learners' learning strategies and the efficacy of phonics instruction

a) To what extent do the learners use their phonics knowledge to remember word spelling?

b) To what extent do the learners apply their phonics skills in vocabulary learning tasks?

c) Does phonics enable the learners to comprehend and sound out new words accurately when reading unfamiliar text?

d) What effect does phonics instruction have on learners' ability to differentiate vowel phonemes in words?

The results of the diagnostic tests and tasks are discussed in relation to research

questions 5a, 5b, 5c and 5d.

7.1 Research Question 5a

To what extent do the learners use their phonics knowledge to remember word spelling?

Appendix 7.1 lists all the spelling mistakes organized into a table and the accuracy rate of each participant. Table 7.1 lists the descriptive statistics of the scores including the lowest, highest, and mean scores and the standard deviations. The error rate for each target word is listed in Table 7.2.

Table 7.1 Descriptive statistics of the scores

minimum	maximum	mean	SD
6	75	35.1	15

Table 7.2 Error rate for each target word

word	gnome	logic	rhythm	impact	complex
error rate	**0%**	**0%**	**0%**	**0%**	**0%**
word	pharynx	prohibit	mnemonic	croquette	extrinsic
error rate	**12.5%**	**12.5%**	**30%**	**22.5%**	**17.5%**
word	millennium	contradict	destructive	bureaucracy	
error rate	**47.5%**	**45%**	**62.5%**	**80%**	
word	megalomaniac	clairvoyance	alternatively	instinctively	
error rate	**100%**	**52.5%**	**65%**	**80%**	
Average error rate		regular words **35.8%**		irregular words: **34.4%**	

As table 7.1 shows, in general, the participants performed poorly on the test. None of them were able to spell all the words correctly and on average they achieved only a 35% accuracy rate. As the task required that the participants memorize the spelling of the new words within a given time, this time constraint may be a major factor that caused the participants to fail to establish the written form in memory for most of the target words. However, as the length of time each word was exposed in the task was judged based on the time the slowest participant needed to access the word using phonics strategy in the pilot research, the result may be indicative of the use of other strategies which either required more processing time or are ineffective in preserving the spelling in memory. That is, the time limit may prompt learners to go for their method of first choice (what we might term a 'panic method') which may not involve much use of their phonics knowledge. The analysis of the error rate of the target words offers more insight.

Error rate for the target words

With the average error rate for the regular words of 35.8% and irregular words of 34.4% (see table 7.2), word regularity did not appear to play a significant role in learner's ability to spell the words accurately. However, examining the error rate of the pairs of words in detail, with the exception of the eighth pair, in which the regular five-syllable word 'megalomaniac' had a significantly higher error rate than the less regular three-syllable word 'clairvoyance,' and the ninth pair, the participants consistently made more errors with the irregular word in each pair. This consistency may suggest that the participants processed the words via a

phonological route when memorizing the spellings. However, as the differences in the error rates ranged from 2.5% to 17.5%, the number of the participants who sounded out the new words in an effort to memorize the spellings and therefore made fewer mistakes with words that conformed to the rules they had learned than irregular ones may be limited. As for the exception of the eighth pair, the limited data do not allow a conclusion on whether number of syllables has a greater effect on learners' ability to memorize word spelling than word irregularities. However, increased syllable number tends to create problems in detecting stress patterns for foreign language learners, making it more difficult for learners to settle on a pronunciation. This may be the factor that caused the participants who did sound out the words in the task to fail to spell the words correctly. This result highlights a potential deficiency of phonics as learners who do apply phonics rules may still fail to obtain accurate pronunciation. With the ninth pair, it is not clear from the study why the word 'instinctively' which contains more one letter to one sound correspondence had a higher error rate than the word 'alternatively'. It may be that in terms of consistency, although 'instinctively' contains more one to one letter to sound relationships, provided that the learners possess knowledge of the correspondence rules, 'alternatively' can be sounded out just as accurately. As the former contains slightly more phonemes, it may be that the number of phonemes has an effect on the participants' strategy use. Further research is required, however, if any conclusion regarding the effect of number of phonemes in words on EFL learners' spelling strategy is to be drawn.

Another significant finding from the results is that, despite the fact that the participants were given more time for longer words, the error rate tended to increase as the words became longer, indicating that word length may play a vital part in learner's ability to remember word spellings. This brings out the question of whether word length should have such an impact if phonics strategy is applied. It is logical to assume that if phonics were being used, providing that the participants were given sufficient time to establish word sounds in their memory, application of their phonics knowledge should allow them to spell words of any length, especially regular words. There is a general lack of studies on the impact of word length on ease of learning. Research indicates that of all the measures, only word length is a strong independent predictor of word recognition (Stuart, 2005). This research may, however, be of little relevance to the effect of word length on learning strategies. As long words tend to contain either irregular sound-letter correspondences or multiple syllables, it is difficult to identify the importance of each factor in causing difficulties in the learners' spelling ability. Nevertheless, given the results, it may be safe to infer that length alone is responsible for the majority of the participants' spelling errors. The fact that word length significantly affected their ability to spell the words correctly indicates that phonics may not be the main strategy being used.

Proportions of phonologically similar misspellings and misspellings consisting of only target word component letters

The examinations of the percentage of the participants' errors that were

phonologically similar to the target words and that of misspellings consisting of only component letters of the target word provide further evidence for the findings. Table 7.3 shows the proportions of both types of errors.

Table 7.3 Proportions of phonologically similar misspellings and errors that contain only the component letters of the target words.

vocabulary	Phonologically similar misspelling	Misspellings consisting of only target word component letters
pharynx	0%	60%
prohibit	0%	100%
mnemonic	0%	91.6%
croquette	44%	100%
extrinsic	0%	87.5
millennium	5.3%	84%
contradict	0%	61%
destructive	20%	60%
bureaucracy	2.6%	71.8%
megalomaniac	2.5%	100%
clairvoyance	9.5%	90.4%
alternatively	0%	92.3%
instinctively	0%	67.5%
percentage of the total number of errors	5.5%	85.3%

As Table 7.3 shows, even with the application of criteria that take into account the participants' language competence, the majority of the misspellings are not

phonologically similar to the target words. In the total of 252 spelling errors produced by the participants, only 14 of those (5.5%) shared the same pronunciation as the target words; however, a significantly higher percentage of those errors (85.3%) consisted of only target word component letters. Examples of the latter ranged from ones that demonstrated a simple letter(s) transposition such as spelling ‘pharynx’ as ‘phanryx’ and ‘croquette’ as ‘crotteque’ to misspellings that were totally different such as spelling ‘contradict’ as ‘coinradict’ or ‘condricton’. Transposition spelling errors are also common amongst English L1 learners (Cook, 2004). Their errors, however, are typically made on words with exceptional sound-letter correspondences and could still be pronounced the same as the target words. In this study, the majority of the participants’ transposition spelling errors are phonologically dissimilar to the target word. Such a result again strongly suggests that the participants’ had not gone through the process of dividing the vocabulary into pronounceable units, sounding them out, establishing the auditory memory of the words, and reproducing the spelling of them using knowledge of the sound-letter correspondences. It is possible that rather than analyzing the internal structure of the words via a phonological route, the participants may rely on strategies such as letter name repetition or visual memory or the combination of the two strategies or other strategies to tackle the unfamiliar words. The fact that a great majority of the spelling errors consist of letters from the target words certainly suggest either that the participants possess strong visual memory of the target word letter components as the result of the use of visual strategy or strong auditory memory of them resulting from the use of

letter name repetition. Such strategies may work well with shorter words but they are extremely limiting when dealing with longer words. This may be the reason why the participants made more errors with longer words. Although the participants were closely observed during the spelling test, as signs that demonstrated the use of a particular strategy were hard to detect in most of the participants, the study here was unable to make a general statement based on the observation. Signs of letter name repetition, hand writing gestures and lip movements, however, were observed on some participants. A brief follow-up interview may be able to compensate the shortcomings of the observation; nonetheless, due to time constraints, this was not done in the current study.

Overall, the results of all the error analysis show little signs of phonics use in the participants. As the participants possessed sufficient phonics knowledge to cope with the spelling of most of the target words, it begs the question of why the participants did not make the most of their phonics knowledge. Before any judgment can be made, it is important to consider the cognitive demand involved in committing the spelling of new words to memory via a phonics route for EFL learners. It requires that learners established the pronunciation of the words as the initial step. However, to do so, they need to segment the words into pronounceable parts, select appropriate sound association for each orthographic unit amongst all the possible links they are aware of and assemble the sounds. With experienced phonics users, all the processes can be completed within a short time. However, as the participants were rarely required to read out words

that were completely new to them (as confirmed in the teacher interview), to work out the pronunciation of the new words, particularly the longer ones, may be a strenuous and time-consuming process that carries a lot of uncertainty. In other words, for the participants, using phonics may be the most effective strategy but it is also the most demanding one. The complication involved in the use of phonics strategy may be the reason why the participants resorted to less demanding but ineffective strategies such as letter-name repetition. Another possibility may be that the participants were aware of the fact that knowledge of sound-letter correspondence alone is not sufficient in helping them cope with the spellings of many English words. As the task demands that they write down the correct spelling of the words, without any requests to sound out the words, they may automatically use more direct and straightforward strategies such as letter name repetition and the use of visual memory.

It is important to note that we can only infer the participants' strategy use from their errors. Correctly spelt words could be the result of the application of any of the possible strategies. The participants may, for instance, use phonics strategy when dealing with the shorter words and other strategies with longer words. This could not be known from the present study. Though phonics may not be the major strategy being used when the participants faced longer words, it is also hard to completely rule out that their knowledge of the letter-sound correspondences did, to a certain extent, play a part in their effort to memorize and spell the words. It may be that phonics knowledge was applied in various degrees amongst different

participants in dealing with different types of words. In addition, it is difficult to judge the extent to which familiarity played a role in the spelling results. Treiman (1991), in her study of L1 users, contends that some learners use memorized associations between familiar printed words (sight words) and new words to gain access to the new words (see also Goswami, 2005). This strategy may exist also in some foreign language learners. For these learners, target words that contain more familiar letter sequences may be easier to memorize irrespective of the length or level of regularities of the words. These familiar letter combinations may be processed as chunks via an orthographic route with their sounds already firmly established such that participants did not have to use their phonics knowledge to process these letter combinations. Word familiarity level may be the reason why the longer word ‘alternatively’ has a much lower error rate than the shorter word ‘bureaucracy’ and that the word ‘clairvoyance’ has a significantly lower error rate than the word ‘megalomaniac’ which contains the same number of letters. In such cases, determining whether a phonics strategy is being applied taking into account only the effect of word regularities and length may be insufficient. However, as Taiwanese learners’ print experiences vary greatly, it is difficult to judge the familiarity level of any words or letter components to any specific group of learners. To discern the extent to which word familiarity level affects learners’ strategy use, a more controlled study may be required.

It is important to note that the task measures the strategies that participants used to commit the spelling of new words to memory. It is possible that learners may

apply different strategies in normal conditions where there is no time constraint and where words they are required to memorize are predominately words that have been taught and therefore may be words for which a sound-print link has been established. Whether such conditions induce learners to use a phonological route to tackle word spelling is unclear. The findings of the student questionnaire indicated that although the participants used a variety of strategies, phonics strategy is still the least used one. Detailed observations of learners' strategy use in a real situation may allow more reliable information relevant to the specific context the learners are in. In general, the findings of the spelling strategy diagnostic test concur with the results of the students' self-report strategy use in the questionnaire survey which showed that phonics is not the dominant strategy they used to tackle word spelling.

The result of the correlation test showed that the background variables did not have a significant impact on the participants' performance.

7.2 Research Question 5b

To what extent do the learners apply their phonics skills in the word learning task?

The results of the word learning task were collected and organized into the table of raw data shown in Appendix 7.2. Summary statistics are given in Table 7.4.

Table 7.4 Means and standard deviations of the accuracy rate for each test

	visual	audio	spelling

Mean (SD) (accuracy rate)	16.00 (0) (100%)	10.8 (2.4) (68%)	7.95 (0.15) (100%)

All the participants confirmed at the pre-test interview that they had learned all the words. The results showed that the participants performed very well on the visual word identification task. All the participants successfully identified all eight target words, achieving a 100% accuracy rate. Their performance on the spelling of the eight target words was equally impressive. Except for one learner, all the participants achieved a maximum ‘8’ on the non-dictation spelling test. Their performance on the auditory word identification test, however, was significantly worse, demonstrating a weak auditory memory of the words. Detailed examination of the raw data revealed that the words identified correctly by this group in the listening test were mostly the six and seven letter words, ‘canyon’ and ‘mascara’.

The differences in the test results indicate that the participants were able to detect the slightest differences in the spelling of all the new words and were capable of reproducing the written form with the correct meaning attached and yet they were unable to differentiate between two similar sounds for a target word. The primary purpose of the learning task and the subsequent tests was to determine the possible role(s) and effect(s) of phonics in self-teaching and the underlying factors that may influence the overall patterns of strategy use in young Taiwanese learners of English. The results of the tests reveal how the learning context may

affect the extent to which phonics is involved in the learning process and the degree of effort learners devoted to different aspects of lexical acquisition. Though the participants were not informed of the specific type of tests that would be given, they seemed to approach the task in anticipation of a non-dictation spelling test, probably because the ability to retrieve meaning from print and vice versa is for them the most frequently experienced form of vocabulary test. Though all participants achieved a maximum score on the written word identification test and spelling test, their poor performance on the auditory word identification test suggests that they did not establish solid word sound memory. Detailed analysis of the words that were successfully recalled in the auditory word identification test suggests that the participants may be relying on the memory of the written words in dealing with the listening tests. In other words, upon hearing the words the participants may go through the process of retrieving the memory of the written word, applying their phonics knowledge, and attempting to match what they heard with the sounds they formed. This hypothesis offers an explanation as to why only shorter or relatively regular words were correctly identified in the auditory memory test: correct identification of the words requires an auditory memory of the complete word, and the constraint of working memory may have made retrieval of the longer and less regular words and subsequent transfer into sounds too cognitively demanding. This assumes that the participants built up orthographic memories of the words without much recourse to letter-sound conversion. Hence, orthographic memory does not always activate the corresponding phonological components, establishment of which may require separate learning effort.

Nonetheless, as the meaning-print link was viewed by the participants as the priority, it may be that they did not initiate sufficient verbal / mental repetition to establish a solid auditory memory. Hence, they were able to correctly spell the words according to the randomized pictures, yet unable to identify the words when they heard them.

It is important, however, to recognize the intrinsic challenges and difficulties in the acquisition of the spoken form of a language through written media. For English L1 learners the acquisition of the spoken form is through exposure in natural context, which, in most cases, requires no conscious effort. Without such exposure, to establish the auditory memory of new words through written media via self-teaching means that EFL learners need to possess knowledge of a system that would enable them to accurately sound out the words. To a certain extent, phonics may be able to fulfill the role. However, because of the nature of English orthography, in many cases, even with adequate phonics knowledge, learners may still have difficulty segmenting words into the correct units and/or matching the divided relational units with the correct phonemes when there is more than one phoneme to which the units can be matched. In this study, unless the participants viewed the acquisition of the spoken form of the new words a crucial part of their task and sought confirmation of the sounds they derived using their phonics knowledge via external help, i.e. by consulting teachers or an electronic dictionary, the sounds they established in their memory may not exactly match the correct sounds of the words.

It is also important to note that for the participants, establishing the memory of the written form of the words may also be less cognitively demanding than to establish the long term memory of their spoken form with phonics knowledge. As previously mentioned, the retrieval of the correct spoken form relies on the successful application of the phonics knowledge and skill as well as some means of confirmation. Once that is achieved, the participants also need to establish the auditory memory of the words through measures such as repeatedly pronouncing the words, making associations, or other relevant strategies. Though to memorize the spelling of the new words, the learners have to memorize the component letters as well as their respective location in words, being L1 Chinese learners means that the participants may be better at acquiring visual images. Indeed, studies on the effect of L1 on the acquisition of L2 has demonstrated that learners of an orthographic transcript relied more on visual shape and perform better on visually based tasks (Brown & Haynes, 1985). In addition, the way English lessons are taught may also compel the participants to develop strength in visual strategy. Cook (2004) states that the acquisition of writing is an interaction between children's mental development and the instruction they received; hence, learners under phonics instruction may favor the phonological route and those under the look-and-say method may show preferences for the orthographic (lexical) route. The results of the textbook analysis and teacher interviews indicate that although phonics is taught as part of the curriculum, it is not used as an instructional method for the teaching of new words, which is predominately done via the look-and-say method. In other words, the learning context is likely to cause

learners to automate the use of visual strategy. Hence, for the participants, establishing the memory of the written forms may be relatively less demanding and more straightforward than remembering the spoken form.

Despite the intrinsic difficulty with the acquisition of spoken form via written media, it can still be achieved if the participants treated the acquisition of the spoken form as an important aspect of lexical acquisition and exert sufficient effort on the task. The results, however, indicated that because of the preconceived idea of how their learning might be assessed, in general, the participants devoted the least effort to this aspect of lexical learning and for that reason phonics did not appear to be used as persistently and extensively as it could have been. The results also suggest that test modality has the potential to affect learners' strategy use and learning outcomes. Despite being instructed to 'learn the words' it seemed that young Taiwanese learners were inclined to define 'learning' as the acquisition of the ability the test in hand demanded.

Nonetheless, it is important to remember that the purpose of print is to communicate meaning, and it may only be natural that the establishment of lexical form-meaning connections is prioritized. Thompson (1999) claims that successful acquisition of orthographic word storage requires that the learner experiences the print word repeatedly and that the correct meaning and sound associations of the word be available as, without the latter, only partial lexical knowledge can be acquired through self-teaching. The results of the word learning task indicate that

for phonics to have an optimum effect in the self-teaching process, it may be necessary for EFL learners to devote effort to committing sound and meaning connections to memory. Taking into account the learners' tendency to devote effort only to meaning and print link, to achieve that, it may be necessary to make sound-meaning links one form of the assessments learners frequently experience.

7.3 Research Question 5c

Does phonics enable the learners to comprehend and sound out new words accurately when reading unfamiliar text?

Appendix 7.3 presents the transcriptions of the oral reading. Table 7.5 lists the number of new words (NNW) identified by the participants and the number of words they were able to infer the meaning of (NMIW), and the percentage of the new words that were correctly sounded out.

Table 7.5 accuracy rate of the oral reading results

Student	**S1**	**S2**	**S3**	**S4**	**S5**	**S6**	**S7**	**S8**	**S9**	**S10**
NNW/ NMIW	16/2	20/1	14/4	19/2	13/4	12/9	14/3	9/3	19/3	13/4
Accuracy rate %	63	55	50	32	54	75	43	33	47	54
Student	**S11**	**S12**	**S13**	**S14**	**S15**	**S16**	**S17**	**S18**	**S19**	**S20**
NNW/ NMIW	14/3	13/4	20/2	21/2	17/2	11/4	21/3	17/4	21/3	14/3
Accuracy rate %	74	62	70	52	71	46	27	58	43	43
Student	**S21**	**S22**	**S23**	**S24**	**S25**	**S26**	**S27**	**S28**	**S29**	**S30**
NNW/ NMIW	22/2	21/1	13/0	13/3	18/2	27/0	15/1	13/3	11/3	21/1

Accuracy rate %	41	24	46	39	44	33	33	46	46	19
Student	**S31**	**S32**	**S33**	**S34**	**S35**	**S36**	**S37**	**S38**	**S39**	**S40**
NNW/ NMIW	18/2	16/4	12/3	16/3	14/4	15/1	12/2	12/4	11/3	12/4
Accuracy rate %	50	44	17	31	64	40	42	58	46	50
Average accuracy rate: 47%										

Number of New words versus text comprehension

As shown in Table 7.5, the number of words identified by the participants as new to them ranged between 9 and 27 words (6.7% to 20% of the total word counts). However, other than S11, S19, S30 and S38, all participants were able to give a brief account of the story and confirm that they had read the Chinese version of the story. It is logical to assume that the number of new words should indicate the ability of the reader and the relative difficulty of the task. Interestingly, however, the participants who were unable to understand the story were not all learners for whom the story contains the most new words. For instance, despite being amongst the participants who knew the fewest words in the text, S26 and S21 were able to describe the story, whereas S11 and S38 who knew comparatively more words failed to do so. As for the participants' ability to infer the meaning of the new words from context, despite the fact that the majority of the participants were able to describe the story, the number of new words for which they were able to infer the meaning is very low. Except for S6 who managed to infer the meaning of 9 out of 13 words she identified as new to her, the rest of the participants could only say with strong conviction that they knew the meaning of between none and four of the new words (0%-33%). According to the data, there seems to be a correlation between the number of words the participants knew and

their ability to infer the meaning of the new words. The participants for whom the text contains fewer new words were more capable of inferring the meaning of the new words, though because of the low number of words, the difference was not significant.

In general, there appeared to be a mismatch between the participants' ability to understand the story and their ability to infer the meaning of the new words. Because of the limitations of the study, it cannot be said with certainty that new words did not hinder the majority of the participants' comprehension of the story. It is possible that most of the participants were able to describe the content of the story because they were able to associate the story with its Chinese version based on their understanding of the title of the story and the bits of the story they were able to comprehend further reinforced their conviction. Conversely, those who were unable to understand the story may in some way have failed to associate the English title to the story they had read and, consequently, the new words or the syntactic structures of the story hindered their comprehension. It is also possible that, as many studies on the effect of the code-based approach have revealed, learners may be focused too much on decoding the print and failed to pay sufficient attention to the meaning. Though the participants in those studies were predominately L1 English learners, it is possible that EFL learners may respond similarly to the approach. The fact that the majority of the participants were unable to infer the meaning of the new words despite being able to describe the story certainly suggests the possibility. It is important, however, to

consider the implication of the fact that the participants did not possess existing semantic and syntactic knowledge to help the meaning inference process. Although the use of a known story provided an alternative route, successful application of the route still relied on participants' ability to understand each sentence in the text to a certain degree and to be able to associate it with its Chinese counterpart. It may be that the demands of different aspects of the task prevented the participants from using such an indirect route efficiently.

The accuracy rate

As Table 7.5 shows, the accuracy rate of the oral reading task was quite low, with the best performer managing to read 75% of the new words he identified correctly and the worst achieving only 17%. On average the participants were able to read less than half (47%) of the new words correctly. It is reasonable to assume that the participants who knew more words in the story would outperform those who knew fewer words. The analysis of the performance of each individual participant, however, shows that there does not seem to be a relationship between the number of words that are new to the participants and the accuracy rate, that is, those participants to whom the text contained fewer new words, despite being able to read the text more fluently and decode the new words faster, did not necessarily perform better in terms of accuracy rate and vice versa. It appears that the participants' phonics knowledge did not work well in helping them decode the new words successfully and neither did their print experience have much impact on their ability to sound out new words accurately.

In the official guidelines for primary School English, the Ministry of Education (MoE) in Taiwan clearly states that under phonics instruction, learners are expected to possess ‘the ability to use phonics to pronounce words’. However, as the statement lacks specification on whether learners are expected to be able to use phonics to read ‘new words’ independently or whether ‘accuracy’ is an important consideration, it is open to interpretation. If the efficacy of phonics instruction is judged on whether the participants were able to independently sound out new words accurately, the results of the study here would suggest that phonics instruction has achieved little success in attaining its proposed goal. It is however, important to know the underlying factors that affect the participants’ performance, i.e. whether there is something intrinsically inadequate about their phonics knowledge, their application skill or something more fundamental about the workings of phonics and EFL learning. By examining the transcript (see Appendix 7.3) and analyzing the participants’ errors, this study is able to provide some answers. In general the participants’ errors can be divided into the following types:

Type 1:Errors caused by the application of the wrong correspondence rules

e.g. disputing /dɪsputɪŋ/ /dɪspʌtɪŋ/; cloak /klɑk/; regarded /rɜgardɪd/ /rɪdʒɚd/ /rɜdʒɚdɪd/; effects /ɛfɛkts/ /ɛfəkts/ /efɛkts/; suddenly /sjudɪnlɪ/ /sudənlɪ/; wrap /rɑp/; severity /sɛvərɑɪtɪ/; kindness /kɪndnɛs/; stronger /strɔŋdʒɚ/; glory /glɑrɪ/; upon /ʊpən/; decide /dɛsɪd/ /dɪsəd/

Type 2: Errors caused by separating the words into wrong orthographic units

e.g. upon /ʌpɑn/ (up-on); retired /rɪtɝd/ /rɪtɪrd/ (re-tir-ed)

Type 3: Errors caused by placing the stress on a different syllable

e.g. upon /ʌpən / /ʊpən/; *severity* /sɛvərətɪ/ /sɛvərɑɪtɪ/; traveller /trɛvɪlɚ/

Type 4: Errors caused by a gap in phonics knowledge

e.g. wrap: /wrɔp/; cause/kʊs/ /kæs/ /kjʊs/

Type 5: Errors caused by mistakes in visual processing

e.g. retired /rɛtrɑɪd/ (re-tried); could (cloud)

Type 6: Substitution errors

e.g. gave-give; shone-shine, put-out, found-find, blew-blow, round-around

Type 7: Syllable reduction errors (sound/ syllable)

e.g. severity /sɛvətɪ/ /sɪvətɪ/ ; traveller /trɛlɚ/; regarded /rɜgɝd/ /rɪgard/

Analysis of the error types

The most prevalent errors were type1 errors. The fact that the most common errors were the result of the application of the valid but wrong correspondence rules demonstrates that the participants were able to decode the words and produce sounds that fit the sound-letter system. If all the new words were

non-words and accuracy rate was calculated simply based on whether the participants were able to apply their phonics knowledge to sound new words out, then the accuracy rate would be significantly higher. It is not clear in all instances why the participants favored one sound correspondence to another; some of the instances, however, suggest that their print experience may have contributed to their decision. For instance, 35 out of the 40 participants read 'disputing' as /dɪspʊtɪŋ/, indicating that the participants may have seen the known word 'put' in the new word and naturally sounded the letter combination out as /pʊt/ despite the fact that the most common phoneme linking to the letter *u* is /ʌ/. Even when the word 'dispute' appeared in the next line, 33 out of the 35 participants still sounded it out as /dɪspʊt/, suggesting that the participants may have settled on the choice. Another example is the word 'severity'. None of the participants were able to read this word correctly and 30 out of the 40 participants sounded the first two syllables as /sɛvə/, perhaps under the influence of the known word 'seven'. Therefore, though the participants' print experiences did not help them pronounce the new words correctly in these instances, they did appear to affect the participants' choice. These errors occurred, however, partly because of the nature of English orthography which allows more than one legal sound-letter correspondence, but ultimately it is because of the absence of the pre-existing semantic and syntactic knowledge of the new words that the participants found it impossible to judge whether their choice made any sense and to self-correct their errors.

The occurrence of type 2 and type 3 errors can also be attributed to the absence

of this knowledge. Whether the participants were able to segment a new word into the correct orthographic units affected whether it could be sounded out correctly. For instance, the participants who separated the word ‘retired’ as ‘re-tir-ed’ instead of ‘re-tire-d’ had very little chance of reading it correctly. However, there are no specific rules on how words should be segmented; to a certain extent, knowledge of the orthographic regularities can provide some guidance. For instance, if the participants knew that in English *ir* rarely occurred at the end of a word, they would be less likely to separate ‘retired’ as ‘re-tir-ed’. However, much of the knowledge of the orthographic regularities cannot be acquired through a typical phonics program which only teaches sound-letter correspondence rules with limited example words to practice. In addition, such knowledge does not work on every word. For instance, it cannot help the participants to decide whether to divide ‘upon’ into ‘up-on’ or ‘u-pon’. Ultimately it relies on participants’ knowledge of the spoken form of the new words. Failing that, it is pure guesswork for the participants.

Type 3 errors occurred because the stress patterns of English words are equally arbitrary. Stress can be assigned to any syllable in a multisyllabic word. Although research carried out on the frequency of different stress patterns in English has shown that some syllable-stress patterns are more common than others (Kucera, & Francis, 1967), there is still no guideline for the participants as to which syllable in any particular word should be stressed. The participants, however, showed a tendency to place stress on the first syllable. As two and three syllable words are

more likely to have stress on the first syllable (Cutler & Carter, 1987), it is possible that this group of learners had subconsciously acquired the knowledge through exposure to spoken English. This tendency to place stress on the first syllable, however, did not help them read the new words in which stress happened to fall on the second syllable. Once again, it is hard for the participants to predict on which syllable the stress should fall as they did not have any oral knowledge of the new words to refer to. Type 1 to Type 3 errors demonstrated that to sound out new words correctly learners not only have to possess knowledge of the correct sound-letter correspondences and the phonological processing skill but they also have to divide the words into the correct relational units as well as placing the stress on the right syllable. Without any pre-existing knowledge of the new words to validate their decisions, it is perhaps not surprising that the participants achieved such a low accuracy rate.

Type 4 errors revealed a gap in some of the participants' phonics knowledge. As the results of the textbook analysis show, all the mainstream textbooks cover most but not all of the most common rules. Hence, some of the participants may not possess all the rules necessary to tackle the new words in the story. Some of the participants (S1, S7, S12, S14, S17, S25.), for instance, attempted to sound out both letter *w* and *r* in the word 'wrap' despite the difficulty in putting the two sounds together. The rule that the *w* in *wr* is a silent letter is absent from all but one of the major textbooks. It is possible, however, that some participants were able to infer the sound of the letter combination from words they had learned such

as ‘wrong’ or ‘write’. Success of such a strategy, however, requires that learners have sufficient print exposure and that they are able to draw analogies between words. The errors imply that EFL learners have to know all possible rules of English either through being taught or self-teaching if they are to be able to sound out all new words. Even if the participants learned all the possible rules of English, they will still have to deal with words that are exceptions to the rules. In a study on the utility of phonics instruction on beginning English readers, Groff (1983) concluded that if beginning readers can gain approximate pronunciations of irregularly spelled words, they then can infer and produce the true pronunciations of the words. The research, however, referred to English L1 learners who already possess oral competence of the language with which they can apply to verify their choice of sounds. Again, without the same level of oral competence, it is questionable whether the same can be applied to EFL learners.

Type 5, Type 6 and Type 7 errors indicate that that the participants did not always process all the letter components in the new words. Substitution errors such as type 5 and type 6 errors can also be found amongst native readers. For instance, Melin and Delberger (1996) found in their studies that experienced readers do not read every word in a text but make errors that fit into the text by substituting one word for another or by deleting or adding words in a way that does not alter the meaning of the text. The analysis of all participants’ type 5 errors, however, indicated that these errors may be of a different nature. Although type 5 errors consist of real words, the substitutions not just altered the meaning of the original

sentences but also caused them to be unintelligible. For instance, 25% of the participants replaced ‘could’ with ‘cloud’, the result is the incomprehensible sentence ‘... the Wind began to blow as hard as it ‘cloud’ upon the traveller.’ With this particular example, however, the fact that the word ‘cloud’ appeared in the previous sentence may account for the participants’ errors. These visual processing errors demonstrate that the participants may be relying on orthographic processes to retrieve sounds of familiar words; however, somehow they fail to process or retain the meaning of these words and consequently fail to notice their errors. The fact that all type 5 errors show high graphic similarities but little relevance in meaning to the original words is further indication that an orthographic approach may be used to retrieve sounds rather than the meaning by some participants. The number of unknown words and the complexity of the syntactic structure may be the possible reason for this. It is also possible however that the participants were so intent on the oral reading task that they only focused on lower linguistic levels, i.e. phonological or word level processing.

Type 6 errors were different in nature from type 5 errors in that the meanings of the substituted words were retained to a certain extent. Goodman (1969) termed such errors as semantic and syntactical errors and contended that such errors reveal that something more than word recognition or letter perception is involved and should be seen as demonstration of the reader’s linguistic competence. The participants’ errors indeed suggest that they possess knowledge of the past tense form of the verbs. It is not clear why type 6 errors were prevalent among the

participants (43% of the participants). A possibility may be that the root form of the verbs is more solidly established in the participants' lexicon and that in their haste to complete the task the participants, upon seeing the past tense verbs, came out with the pronunciation of the root form as it came most readily to their minds. It is possible that type 7 errors were the result of a similar process. Syllable reduction errors are common in fluent speakers (Echols & Newport, 1992). However, as the participants who made syllable reduction errors were slow readers who knew fewer words than other more fluent readers, it may be their method of coping with the cognitive demand of sounding out new words by not processing all the letter components.

Other errors

Not all participants' errors can be categorized into the above types. In the list are types of errors for which more than one example could be found. Some errors can be placed into more than one category. For instance, the pronunciation of /ʊpən/ for 'upon' could be the result of both the application of the wrong correspondence rules and the misplacement of the stressed syllable.

Apart from these types of errors, the examination of the transcript also showed inconsistencies in some participants' pronunciation of the same new words. That is, they vacillated between different pronunciations of the same new words (see the transcription of S9, S14 and S19 with 'traveller' for examples). As previously discussed, the participants did not possess any reliable source to verify their

choice of sounds, and such vacillation is a reflection of their uncertainty. In addition, although discounted as errors, all participants demonstrated some forms of articulatory faults, the most prevalent being reading ‘despair’ as ‘des-pair’. That is, the participants did not distinguish between the aspirated and unaspirated *p* in their pronunciation of the new words. Interestingly, however, they were able to do so with words they had already learned. It is possible that many of the words that the participants knew were acquired under the look-and-say whole word approach; hence, the participants were able to reproduce the words as a whole accurately. The articulatory features found in the participants, however, suggests that to achieve native like pronunciation, this aspect of phonology may need to be taught as part of a phonics program.

Further, some participants made errors with words that they indicated as known to them. The most prominent example is the word ‘wind’. Six of the participants (S5, S10, S24, S25, S26 and S32) read the word ‘wind’ as ‘/wɑɪnd/’, despite the fact that they were able to attach a correct meaning to it. One of the controversies in studies of visual word recognition is the question concerning the extent to which visual word recognition depends on phonological information. The growing consensus is that traces of a phonological contribution are always present in the very first stages of visual word recognition (Wijnendaele & Brysbaert, 2002), suggesting that the activation of the sounds of known words and the identification of the meaning may be more or less concurrent. The participants’ errors, however, demonstrate that the simultaneous activation of sound and meaning may not

occur for some EFL learners. One possibility may be that the print-meaning link is more firmly established in the lexicon than the print-sound link and, being intent on sounding out the words, the participants automatically used the phonological route of processing. In general, most of the participants' self-correcting also concentrated on making the sounds they produced fit the sound-letter rules. It is hard to detect signs of a meaning-making process from the participants' reading performance.

Overall discussion

Oral reading has been used to assess students' reading levels in many studies. The readers in such studies are predominately L1 speakers and were said to be operating with various kinds of graphophonic, syntactic, semantic and morphological input (German &Newman, 2007; Goodman, 1989; Kucer, 2009). Error analyses in such studies mainly focus on the linguistic consequences of reading errors, i.e. whether the readers' errors affect their comprehension and the extent to which they were able to use different sources of information. In a way, they are studies on how well the readers were able to match oral units with written units through the facilitation of various inputs and the criteria by which success was judged were based on the extent to which the readers were able to produce fluent and expressive reading with few errors. However, any assessment of learners' oral reading ability needs to take into account the underlying language demands inherent in an oral reading task and consider what is available to the readers. Without the same level of oral competence as L1 learners, Taiwanese

EFL learners' oral reading in English has to be of a different nature. When "new" words are completely new to them, oral reading is no longer a process of matching oral units with written units. Their only sources of information are textual context and knowledge of letter-sound converting rules. The former provides them with a source to link meanings to the new words, whereas the latter serves as a tool to gain word pronunciation. For L1 learners, when a new print word is successfully pronounced they will simultaneously gain access to its meaning. When they are unable to obtain the correct sounds of new print words, contextual information may serve to supply the meaning of the words and with that comes the correct pronunciation. In other words, the availability of other sources of input means that there is less demand on L1 learners' phonics knowledge. They do not need to learn all the correspondence rules in English in order to sound out new written words accurately. For the participants of this study, however, neither textual context nor phonics knowledge was able to provide them with confirmation of the accuracy of the sounds they produced. Because of that, reading out unfamiliar text that contains a fair number of new words is a far more challenging and laborious task. It may be that poor automaticity in word reading and the laborious movement through the text taxed the participants' capacity such that they were unable to construct a meaning for the new words.

Any interpretation, however, needs to take into account the social context that learners are in. It may be that the assessment oriented culture of learning conditioned the participants to perceive the task as an assessment of their oral

reading capacity and their phonics application skill and that they consequently prioritized sounding out words correctly. Because successful meaning inferences would not help the oral reading process and neither would accurate word reading help meaning inferences, the participants may simply have decided to focus on the phonological level of the oral reading. It is possible that the participants may perform differently if they were specifically informed that the task is an assessment of their level of comprehension of the story and their ability to infer meaning of the new words. Whether that, however, will be at the expense of the acquisition of the word sounds is another question that requires research specification.

The results of the oral reading tasks revealed that except for a small number of words, the majority of the participants' errors were not the consequence of lack of phonics knowledge. Nonetheless, they were unable to achieve a high accuracy rate. The circumstances L1 learners are in support the utility of phonics instruction as the availability of other sources of information mean they are able to function with the most common rules. For Taiwanese EFL learners, however, the practicality and utility of using phonics as a pronunciation tool is impaired as sound-letter knowledge alone is not always sufficient in helping the participants to sound out new words accurately.

It has to be pointed out that the accuracy rate of any oral reading may vary according to the text used. It is possible that the participants' may achieve a

higher accuracy rate with one text and lower with another. It is not the purpose of the study to completely rule out the utility of phonics instruction for the oral reading ability of EFL learners. What the study sought here is evidence of the intrinsic difficulties Taiwanese EFL learners face in using phonics as a pronunciation tool in an oral reading task.

7.4 Research Question 5d

What effect does phonics instruction have on learners' ability to differentiate vowel phonemes in words?

Detailed results including the participants' answers and the level of difficulty marked by and the accuracy rate of each participant are listed in Appendix 7-4. Table 7.6 lists the distribution of the level of difficulty marked by all the participants' and table 7.7 lists the descriptive statistics including the minimum, maximum and the average accuracy rate and standard deviation of the scores.

Table 7.6 Distribution of the participants' marked level of difficulty

Level of difficulty	very easy	easy	neutral	difficult	very difficult
No. of participants (percentage)	1 (2.5 %)	6 (15 %)	23 (57.5 %)	5 (12.5 %)	5 (12.5 %)

Table 7.7 Descriptive statistics of the scores

minimum	maximum	mean	SD
33	87	52.85	11.49

As table 7.6 shows, seven participants (17.5%) found the test on the easy side, ten (25%) on the difficult side and twenty-three (57.5%) of the participants found the task neither easy nor difficult. As the test required that the participants apply their phonological processing skills to isolate the phonemes for the underlined orthographic unit (letter(s)), it is not clear whether the marked level of difficulty reflects their opinion on this part of the process or their confidence on the knowledge of the exact phonemes that correspond to those underlined letter(s). Nonetheless, the fact that the majority of the participants did not find the task difficult suggests that they were able to cope with the process and have a certain level of confidence over their knowledge of the word sounds. Hence, it is reasonable to assume that the participants should perform reasonably well on the test. However, with an average accuracy rate of 52.85% and the best performer achieving only an 87% accuracy rate (see Table 7.7), it appears that the participants' perception did not exactly match their performance. Indeed as demonstrated by the non-significant correlation between the participants' marked level of difficulty and their score, those learners who found the task easy did not necessarily perform better than those who found the task difficult. It is possible that when one of a letter's corresponding sounds is taught, despite the fact that there are multiple other sounds corresponding to the letter, young Taiwanese learners may apply only the rule they know best whenever they encounter the letter. For instance, when the sound of *a* is taught as /æ/ as in 'apple', they may link all instances of the letter *a* they find in words to the vowel phoneme /æ/ even if they have heard alternative pronunciations. Indeed, despite the fact that the vowel

phonemes in each pair of words are either identical or similar in that they differ in only one acoustic feature, when the error rate of each pair of words was analyzed, it emerged that whether the target letters were identical is the main determinant of their answers. As Table 7.8 below shows, the error rate is the highest with the pairs of words that contain the same letter but is actually linked to different vowel phonemes. The pairs of words that contain different target letter(s) but actually consist of the same vowel phonemes also received a relatively high error rate. Conversely, the participants performed better on pairs of words that contain the same target letter(s) and are linked to the same sound and those that consist of different target letter(s) and are linked to different vowel phonemes.

Table 7.8 Participants' error rate for each pair of words

Word pair	**paper/ January**	**eleven/ in**	**food/blue**	**April/ apple**	**go/ dog**
answer	D	S	S	D	D
Error rate	77.5%	47.5%	22.5%	95%	80%
Word pair	**desk/ rain**	**fruit/ moon**	**teeth/ me**	**hat/ has**	**pink/ tea**
answer	D	S	S	S	D
Error rate	25%	45%	37.5%	7.5%	32.5%
Word pair	**home/ window**	**good/ put**	**fun/ hot**	**boat/ cost**	**sun/ brother**
answer	S	S	D	D	S
Error rate	55%	42.5%	20%	62.5%	67.5%

That is, the participants tended to treat pairs of words that contain the same target letter(s) as sharing the same vowel phonemes and pairs of words that contain

different target letter(s) as linking to different sounds. Hence, the participants made more errors when the actual sounds of the pairs of words violated this pattern. As all the participants were year 6 learners who had finished the phonics program in their curriculum, it is assumed that they were aware of the fact that the same letter can be linked to different sounds and that different letters may share the same sounds (as revealed by the results of the textbook analysis). However, the test results fail to show that they make much use of this aspect of their knowledge. The fact that neither Chinese nor Taiwanese language distinguishes between the long (tense) and short (lax) vowel phonemes in English may contribute to the misconception. The main reason, however, may be attributable to the typical model of teaching in which main vocabulary is often presented via a whole word approach and that only words that are used to illustrate phonics rules received emphasis on their phonemic components. It is true that many textbooks pay special attention to pairs of words such as ‘sheep’ and ‘ship’ or ‘paper’ and ‘pepper’ that may sound similar to the learners but actually consist of different vowel phonemes. However, little attention has been paid to words that consist of the same letter but are actually linked to different vowel sounds, such as ‘go’ and ‘dog’ or words that consist of different letter(s) but actually sound the same such as ‘teeth’ and ‘me’. Hence, it is not surprising that learners make assumptions based on the correspondence rules they are most familiar with. In addition, even when the learners eventually learn that the same letter can be linked to multiple different sounds and that different letters or letter combinations can be linked to the same sound, it relies on those who teach them to make the distinction clear in

their pronunciation as well as the learners' own ability to perceive the differences between similar phonemes. Failing either of these conditions means that the participants may attach the phonemes to the letter units according to their own belief. The result of the test indeed suggests that, despite the fact that all the words in the test were high frequency words to which the participants were regularly exposed, each participant appeared to link the same sets of words (letters) to different sets of phonemes.

In the past, when the teaching of K.K. phonemic / phonetic symbols was a compulsory part of the English curriculum, all new words listed in textbooks were listed along with their phonemic symbols. Hence, the information regarding exactly which phoneme linked to a letter in a word was easily available to learners. Consequently, even if the impact of L1 on the acquisition of L2 phonology meant that they were unable to make the distinction of long/short vowel phonemes clear in their pronunciation, they were aware that words such as 'hat' and 'April' that consist of the same vowel letter *a* are actually linked to different sounds and that words such as 'son' and 'sun' that consist of different letters actually share the same pronunciation. The provision of the phonetic symbols also enabled the acquisition of such knowledge independently of the teacher. In addition, knowing the exact phonemes the letter(s) correspond to allowed learners to pronounce the words as accurately as they could even if their teachers failed to make the distinction clear.

Though phonics instruction provides learners with knowledge of the most common sets of sound letter correspondences, as mentioned previously, the semi-arbitrary nature of English orthography means that they are not equipped with the ability to cope with many of the exceptions to the rules. Furthermore, without an easily available means by which learners can confirm the assumptions they make about the phonemic components of words, they may never be conscious of the fact that they have been associating letters in many of the familiar words with the wrong sounds. The distribution of the level of difficulty of the test marked by the participants indeed suggests that many of the participants may be lacking this knowledge.

This returns us to the question of what exactly the function of phonics is in EFL acquisition. In L1, phonics plays a significant role in learners' literacy acquisition. It allows L1 learners to match the sounds of words that already exist in their mental lexicon with printed words. In other words, they have already acquired English phonology, possessing knowledge of the sounds of the language. For young Taiwanese learners, however, in many cases, phonics is the means by which they acquire sounds in English as well as making the connection between letters and sounds, allowing access to the spoken form of printed words. However, because the teaching of phonics is spread over four years, this route of learning English phonology is extremely inefficient. The alternative route for the participants to acquire English phonology is through vocabulary teaching. That is, through exposure to spoken English. However, without the focus on individual

English phonemes, it is questionable whether learners can detect the differences in phonemes that sound similar but are actually different to their native language. It is not clear what the government's ultimate goal is for phonics instruction in respect to the acquisition of English phonology. What the test reflects is that phonics instruction appear to be insufficient for young Taiwanese EFL learners if perfect native-like phonology is to be achieved

Pearson correlation was performed on the data for possible impact of the background variables on the participants' performance. It was found that these variables did not produce a significant effect on learners' performance.

7.5 Summary findings and conclusion

To investigate learners' learning strategies and the efficacy of phonics instruction, a battery of tests and tasks consisting of a word learning task, its accompanying tests, new word spelling test, an oral story reading task and a vowel phoneme distinction test were given to 40 learners who possessed good phonics skills. The results show that in the spelling test, the learners' error rate tended to increase with longer words, indicating that phonics may not have been the main strategy for remembering spellings. Indeed, the majority of the misspellings were phonologically dissimilar to the target words, strongly suggesting a non-phonics based strategy. Amongst the vocabulary learning tasks, a relatively weak performance on auditory word identification suggested the same.

In the oral story reading task, the learners were able to sound out less than half the new words correctly. Misapplication of correspondence rules led the list of errors. Other errors included separating words into the wrong relational units, placing the stress on the wrong syllable, applying a non-possible sound to a letter or letter combination, visual processing errors, substitution errors, and syllable reduction errors. There was evidence (particularly in the visual processing errors) that participants may be relying on orthographic processes to retrieve sounds of known words to apply to the new word. The number of new words for which participants were able to infer the meaning was very low. It may be that poor automaticity in word reading and the laborious movement through the text taxed participants' capacity such that they were unable to construct a meaning for the new words. Alternatively or additionally, they may not have viewed meaning construction as part of the purpose of oral reading and hence simply did not try to do it.

The results of the vowel phoneme distinction test show that the learners' confidence in their ability to differentiate vowel phonemes exceeded their ability. It may be that the participants felt confident because they knew the sound or sounds for a particular letter, but underperformed in the test because they applied the wrong rule.

The results of the battery of diagnostic tests and tasks highlight the difficulties young Taiwanese learners face in learning to read using phonics without sufficient

oral competency. Not only can they not rely on existing semantic and syntactic knowledge to help comprehension but neither can they rely on oral competence to verify their choice of sound-letter links and the positioning of the stess syllables of new words. For EFL learners, therefore, the lack of preexisting oral knowledge of English limits the utility of phonics instruction and the role it plays in literacy acquisition.

The outcome of the tests and tasks also reveals the impact of the social character of education on learners' learning behavior. Brophy (2004) argued that "although schools are established for the benefit of students, from students' point of view, time spent in the classroom is devoted to enforce attempts to meet externally imposed demands (p.15)." Young learners in Taiwan certainly feel these demands; they face a convergence of academic pressures resulting from a range of different school subjects all of which involve assessment and heavy loading of homework. With the demand to perform well on all subjects, much learning is test-driven. According to Hall (2002) being a member of a particular class leads to the development of particular types of knowledge and competencies. Learners are likely to develop awareness of the types of assessment they receive and concentrate on the knowledge and skill required accordingly. In the present study, it has been found that most of the English literacy assessment does not necessarily require the application of phonics skills and, together with the influences of learners' L1 literacy learning experience, this reduces the extent to which phonics is used.

It is important to bear in mind, however, that limited application of phonics skill in the learning process does not signify that young Taiwanese learners underperformed in their literacy learning in English nor does it suggest that more application of phonics skill would enhance learners' literacy performance. Instead, it demonstrates how young learners incorporate phonics into their literacy learning under the influences of various sociocultural factors.

Chapter 8 Conclusions

8.1 Recapitulation of the research and main findings

The study described in this thesis aimed to investigate the role and efficacy of phonics instruction in the early literacy development of young Taiwanese EFL learners. It examined (1) the presentation of phonics in elementary school textbooks, (2) teachers' knowledge, perceptions, beliefs and attitudes related to phonics teaching and English literacy, (3) the role of phonics in the teaching process, (4) learners' beliefs, attitudes and perception of phonics and English literacy, and (5) learners' learning strategies. Text book analysis, a teacher interview, a student questionnaire and a battery of diagnostic tests and tasks were adopted as instruments for the investigation.

The textbook analysis shows that phonics is contained in a separate section in each lesson in the textbooks. There is no direction or indication of how the phonics learning supports or could be integrated into the main lesson vocabulary and because of this it remains an isolated skill-learning exercise. Moreover, none of the textbooks include a sufficient number of phonics rules to enable learners to tackle the majority of either the official basic word list or the main vocabulary in each lesson. The implication is that written words are intended to be taught through a whole-word method and that phonics knowledge is either the end target of the phonics input or it is assumed that phonics knowledge will automatically

result in phonics use. There is no guidance given to students regarding how and when to use phonics. There is also a perceptible absence of regular word building and spelling activities.

The investigation of teachers' knowledge, perceptions, beliefs and attitudes related to phonics teaching and English literacy and the role of phonics in the teaching process showed that In general, teachers strongly endorsed phonics instruction but perceived phonics to be a pronunciation system rather than a mediator between spoken and written English. Yet they did not regard learning written words through phonics alone as a viable choice.

As for the role of phonics in the teaching process, the conduct of lessons as reported by the teachers included very little use of phonics. Congruent with the findings of the textbook analysis, written words were predominately taught through a whole word approach rather than through the mediation of phonics. Written and spoken words were taught more or less simultaneously before learners possessed most of the relevant phonics knowledge. Learners were rarely given opportunities to practice reading out new words independently. The teachers acknowledged that social contextual factors greatly affected their teaching.

The investigation of learners' beliefs, attitudes and perception of phonics and English literacy revealed that learners also perceived phonics to be a

pronunciation system but were uncertain of its efficacy and their own ability to use it to read out new words accurately. They did, however, believe strongly in its efficacy in promoting accurate word spelling. A majority of learners did not view reading in English as a pleasurable activity and demonstrated a tendency to rely on teachers to provide all the relevant knowledge required for reading an unfamiliar text. The investigation of learners' learning strategies and the efficacy of phonics showed that in general, learners did not appear to use phonics knowledge in spelling and word learning tasks and despite applying phonics skill in new word reading, the accuracy rate was low. In general, learners demonstrated a tendency to prioritize print-meaning links over sound-print links, suggesting that test modality plays a role in learners' strategic choice. The word distinction test revealed the negative effect of relying solely on phonics as a pronunciation system in that learners failed to identify phonemes not in their first language. The test also showed that different learners applied different vowel sound-letter links to the same pairs of words.

8.2 Overall discussion: The role and efficacy of phonics instruction

The combined findings from each of the research tools enable the current research to triangulate results and uncover the interrelationships between the design of the textbooks, various conceptual, attitudinal, cognitive and social factors, and the teaching approach, and the consequences for the role and efficacy of phonics. The results of the textbooks analysis and the teacher

interview allow detection of how the textbooks and various social factors dictate the teachers' instructional practice and affect their perception of literacy teaching in English and phonics instruction. How the textbooks present literacy and phonics teaching and how teaching is conducted in the classroom also provide explanation for the learners' perceptions of phonics and its efficacy reflected in the student questionnaire as well as the learners' performance in the tests and tasks. The combined results allow a more thorough understanding of how phonics works for young Taiwanese EFL learners' literacy development in English.

The format of the textbooks is highly influential in determining how phonics is used in English classes in Taiwan because teachers work through the lessons in the textbooks and their perceptions appear guided by the textbooks. Phonics is located as a separate 'end-piece' in the textbooks and as a result is not used in the main lesson. Instead, a whole-word approach to reading is promoted. This is in line with the local L1 models of literacy learning and beliefs and illustrates how the phonics component has to some extent been affected by local cultural beliefs. Peng and Woodrow (2010) noted that in a FL context local cultural models of learning and socially constructed beliefs have a profound influence on teaching and thereby learning and the present study provides an illustration of this in a specific FL context: in the present study, it is seen as a failure to meet government aims for phonics use owing to local cultural attitudes to word-reading, influenced by L1 attitudes and experience. This results in a poorly presented phonics component (in the textbooks) and a weak and at times confused presentation of

phonics to the learners. Classroom teaching devoted to phonics fell short of what its stated importance might merit. The lack of regular word-building and spelling practice and absence of self-teaching opportunities for learners to practice their phonics knowledge in and out of the classroom combine to suggest to learners that they are not expected to apply the phonics knowledge they have. This, however, appears to contradict the official curriculum objectives and teachers' expectations for phonics. It appears therefore that there is a mismatch between the intended role of phonics and its presentation.

Reading is taught alongside speaking before learners possess much phonics knowledge. Because of this, when phonics is practiced in the classroom, it does not assume the role of mediator between spoken and written English as it does for EL1 learners. Proponents of phonics instruction often cite its role in self-teaching, yet this requires a comprehensive knowledge of syntactic and semantic rules and a developed mental lexicon (Nicholson, 1999; Thompson, 1999). If FL learners in Taiwan were exposed to sufficient spoken input prior to learning to read, phonics may be able to play a similar role. Under the current conditions, phonics cannot be expected to promote self-teaching of new words from print. Phonics is instead being used in place of a phonetic alphabet as a guide to pronunciation of unknown print forms. That is, the *oral* form is unknown. The role of phonics is therefore being extended from that of a print-sound linking agent to that of a sound-teaching agent.

Phonics teaching is strongly endorsed for its enabling of direct access to word sounds for L1 learners. Groff's study (1983) for example demonstrated that learners were able to infer and produce the true pronunciation of words based on partial knowledge of the word sounds. Yet the absence of oral competence in EFL learners such as those in Taiwan has different implications for the efficacy of phonics as a sound-teaching agent. Because in English the same letters may have a range of different sounds or vice versa, without pre-existing oral knowledge to confirm the sounds obtained through sound-letter conversion, learners may not always be able to obtain the correct pronunciation of new words despite possessing relevant phonics knowledge, as revealed in the results of the oral reading task, and because of this phonics cannot adequately perform the role of sound-teaching agent. This result corresponds to Venezky's (1999) conclusion that 'English orthography facilitates word recognition for the initiated speaker of the language, rather than being a phonetic alphabet for the non-speaker (cited in Cook, 2004: 62).

Prior to the introduction of English into the primary school curriculum, K.K. was taught at the commencement of the English curriculum. It is still the phonetic alphabet of choice in Taiwan and primary school students are aware of its existence. This study revealed that most of the teachers rejected the teaching of K.K. in primary school whereas more than half of the students felt the need for a phonetic alphabet, as evidenced by the use of ZYFH to record the sounds of English. As noted, both teachers and students consider phonics to

be a pronunciation guide. It is necessary to note, however, that the students' beliefs are informed by their experience in the classroom and hence are a response to the textbooks and teacher inputs. Where a difference between teachers and learners was seen was in the willingness to use an alternative pronunciation guide: whereas teachers rejected the use of K.K. and mostly discouraged the use of ZYFH, learners at times chose to use ZYFH. It is suggested here that teachers' belief that phonics should act as a pronunciation guide may have caused them to reject ZYFH as unnecessary, whereas learners were willing to use whatever resources were available to them to assist in word pronunciation.

Phonics can be used to facilitate spelling. The teachers believed in the utility of phonics knowledge in spelling and yet spelling tests were given before the relevant phonics knowledge was available to the learners, meaning that learners may have to develop different strategies to cope with spelling tasks. The way print words were taught (whole-word approach) may have compelled learners to develop strength in visual strategies, illustrating that, as was shown by Connelly, Rhona, Johnston and Thompson (1999), strategy use is influenced by the type of instruction received. Additionally, the use of visual strategies as well as of ZYFH for pronunciations illustrates how L1 strategies were utilized in learning the FL. In Chinese language readers, visual strategies are needed for early success (Siok & Fletcher, 2001). The current research showed that the L1 Chinese language learners investigated in this study used visual strategies in preference to phonics

strategies in their EFL learning and this may be due to the implicit teaching of visual strategies or to learner preference for well-developed L1 strategies, as described by Wang, Koda and Perfertti (2003). Further to this, it seems that if learners are to use alternative strategies in their FL learning, they must be clearly directed not to use L1 strategies and given clear instruction in the use of a more effective alternative strategy. The current research shows that contrary to these requirements, L1 strategies were encouraged and clear instruction in the use of phonics was not given. Because of their L1 influences, the learners in the present study may have a preference for orthographic routes to word-memorization. Certainly, the new word learning task demonstrated that learners did not automate a phonological route of processing: once learners are accustomed to learning through rote visual memorization, even if they eventually acquire knowledge of sound-letter links, they may become unresponsive to strategy training. This conclusion is similar to that of Randall (2008), who reported that learners' L1 processing experience constrains the cognitive procedures used in L2. The results of the teacher interviews, student questionnaire and the word spelling and word learning tasks certainly indicated that phonics was not used as extensively as was hoped for by the teachers.

The textbooks appeared to target teaching as many of the sounds of English as possible via their phonics section. Despite this, no textbook series taught all of the American English phonemes in the four years of the primary school English curriculum. Consequently, learners may not possess knowledge of the precise

pronunciation of all the phonemes of English and may have difficulty distinguishing between similar sounds in English that do not exist in their native language(s). This supposition is supported by the findings of the vowel phoneme distinction test, which showed that learners failed to identify phoemes that do not exist in their L1 (Chinese).

It is evident that in Taiwan phonics is getting its own interpretations at a policy level, and from publishers, teacher educators, teachers, and children themselves. Various social contextual factors play a major role in shaping these interpretations and affecting the role and efficacy of phonics instruction. It was found that teachers based instructional decisions on considerations of the way students in Taiwan learn, on L1 experience, time constraints, parental and social expectations of the teachers and learners, learners' mixed abilities, and psychological characteristics of the learners. Although teachers expressed frustration at the limited application of phonics knowledge by the students, for example, this is partly because of the expectations they transmit to their students. This is not to blame teachers for any underperformance in their students, but to acknowledge that they are an important factor in the social context being referred to.

What counts as successful learning must also be judged in terms of educational goals of the specific context in which learning takes place. Limited application of phonics knowledge does not equate to failure at learning. The study showed that young Taiwanese learners developed their own strategies, either through the

facilitation of their accustomed way of learning or the combination of new and old knowledge and skills, to cope with the task presented to them. However, official objectives for phonics instruction state that phonics should enable learners to use basic phonics rules to sound out words and to spell words and the study indicates that the phonics instruction provided is not geared toward fulfilling these goals. This does not imply, however, that Taiwanese EFL learners do not or cannot benefit from phonics instruction. Rather, it helps in understanding how the social, interpersonal, and cultural environments in which learning takes place affect the utility of phonics for young Taiwanese EFL learners. Further, it indicates that any theories of FL reading and any adoption of literacy approaches must account for the effects of FL-specific linguistic and nonlinguistic variables, particularly prior literacy experience, dual-language involvement and limited linguistic knowledge, as well as culturally-conditioned predispositions and attitudes.

Sociocultural theory's stress on the social bases of the mind implies a significant contribution of culture to cognition and language (Andersson & Andersson, 2005; Arievitch & Haenen, 2005; Hall, 2002; Stephen, 2010) and the results of this study demonstrate clearly that the effect of phonics instruction was altered by various sociocultural perceptions and attitudes as well as literacy practices specific to the Taiwanese context.

8.3 Contribution of the thesis

For decades, the role and efficacy of phonics instruction has been widely researched and debated. In recent years, despite on-going controversies, phonics has gained in popularity due to evidence from cognitive science in support of the critical role of the systematic teaching of phonics in facilitating phonological awareness and processing skills, said to enable the self-teaching mechanism inherent in an alphabetic language (see Share, 1995). This evidence, however, is largely based on research on L1 learners of English; very little is known about the applicability and the efficacy of phonics in EFL learning. This thesis presents an investigation into the role and efficacy of phonics instruction in an EFL learning context. It is believed, thus, that the study fills an important gap.

Although there have been numerous publications on literacy in a FL in recent years, the vast majority of the literature either addresses higher level reading or the sub-components of the interaction (i.e. vocabulary, grammar) between teaching and learning (e.g. Ellis & Beaton, 1993; Boggards, 2001; Shintani & Ellis, 2010). Relatively little information is available on specific issues in early EFL literacy development. Further, although it is now widely acknowledged that early literacy acquisition is a dynamic process involving the interaction and integration of cognitive processes and social conception processes, little is known about exactly how the social and cognitive features interact in that process (i.e. how a specific social context interacts with a particular teaching approach and the

cognitive consequences of such interaction). Building on the existing literature on cognitive oriented research on phonics and reading and on the impact of various sociocultural factors on learners' learning process and through the combined use of qualitative and quantitative methods of data collection, this study offers valuable insights into the interplay between the various social, conceptual, attitudinal and cognitive factors and the role phonics plays in young Taiwanese learners' literacy development. It is believed that as well as adding to the knowledge of the culturally embedded nature of language learning, the study also offers new insights into the mechanisms by which young EFL learners learn to read. Considering the scarcity of empirical examination of the efficacy of phonics in early EFL literacy development in a specific social context, it is believed that the current research adds an original contribution to help fill this gap in the knowledge of early literacy.

Vygotsky argued that the true test of any theory is not the contribution it makes to our understanding of the object of study but the extent to which it improves the concrete practical activities of people, including those that take place in educational settings (cited in Lantolf & Thorne, 2006). It is believed that the outcomes of this study offer policy makers as well as language teachers a lens for conceptualizing, examining and ultimately transforming classroom practice.

8.4 Implications

The results of the study have implications for policy makers, teachers, textbook compilers and teacher educators.

8.4.1 Implications for policy makers

This research has highlighted issues regarding the application of phonics and the efficacy of phonics instruction that need to be addressed by policy makers. Phonics allows young learners to understand the principle that English words are composed of letters that are direct representations of speech sounds. It also enables a direct link of letter(s) to sounds and facilitates learners' spelling ability. As such, it is an important component of initial EFL literacy teaching, particularly in Taiwan where the L1 is not alphabetic. There is however an absence of research justification for its inclusion from the MoE and, perhaps in part because of this, there is also some contradiction inherent in the placement of phonics within different sections in the guidelines. As a consequence it is unclear what the expectations are for phonics.

The MoE defines the learning objective for phonics as to enable learners to use basic phonics rules to sound out words and to spell words. This appears to imply that phonics is expected to allow students to pronounce unknown print forms of words. However, this study has described how factors such as orthographic depth make phonics a highly imperfect tool for determining the pronunciation of

unknown print forms. It is also possible, however, that in making this statement policy makers have assumed a pre-existing oral knowledge or have over-looked the L1-FL differences in pre-existing oral knowledge when literacy learning commences. Policy makers may therefore need better awareness of the limitations of phonics and the additional difficulties encountered by learners using phonics without sufficient oral proficiency. It may be necessary to re-consider the state of oral competence of the typical early literacy learner in Taiwan and factor this into targets for the objectives of phonics. This study has demonstrated that phonics cannot singlehandedly act as a pronunciation tool for unknown print forms.

There is also the intention within policy goals that phonics should be a tool that enables self-teaching. Phonics instruction in an EFL classroom needs to take into account the effect of orthographic regularity on the acquisition of phonological coding accuracy as well as the nature of EFL learning in Taiwan. Because of the complexity of English orthography, sound-letter knowledge alone is not always sufficient in helping learners to sound out new words accurately and as Taiwanese learners typically do not possess a pre-existing oral repertoire, there is no means by which they can confirm the accuracy of the sounds they produce. Hence, though phonics may to a certain extent provide a basis for obtaining word pronunciation, as the study reveals, learners are not always able to correctly sound out new words. This means that despite the intention that phonics should be a tool that enables self-teaching, complete independence under phonics

instruction is unachievable for Taiwanese EFL learners.

If self-teaching is to be enabled, it is necessary for policy makers to promote an additional system that provides a reliable source of pronunciation. The fact that some learners use Chinese phonetic symbols to note down the sounds of new words when classroom exposure fails to allow them to establish the oral memory of the new words also suggests that it is crucial that Taiwanese learners are provided with an alternative system by which they can record and retrieve sounds of new words independently at early stages of learning. Many of the K.K. phonetic symbols share the same sounds as well as forms of the lower case letters of the alphabet and hence are not challenging to learn and have no potential to confuse. Moreover, for the remaining phonemic symbols that may potentially confuse learners, it is believed that as the sound status of phonemes is marked by forward slashes learners will, with repeated exposure, be able to differentiate between the alphabet and the phonemic symbols. Indeed, it may prove beneficial and straightforward to combine the teaching of K.K. phonetic symbols with phonics to primary school learners. The use of K.K. symbols may also allow knowledge of the accurate pronunciation of words, which learners under phonics instruction alone generally lack. K.K. is already an established English pronunciation alphabet in Taiwan, used by junior high school students and known by many elementary school students. Moreover, the additional curriculum time required for teaching K.K. alongside phonics is minimal and hence it is suggested that the inclusion of K.K. in early literacy learning in elementary school in Taiwan is a low

risk strategy with potentially high rewards for students.

Additionally, changes are needed to improve the way phonics instruction is delivered. Policy makers must be proactive in promoting this change by supporting Taiwan-specific research and recommendations to aid textbook compilers, teacher-educators and thereby teachers. One line of research should investigate whether the teaching of sound-letter links is essential for young Taiwanese learners to learn to read or whether such knowledge can be better acquired through engaging in reading. The goal of the research should be to develop a more appropriate research-based national curriculum.

Overarching all of the above is the need for the government to set more clearly-defined objectives and attainment indicators for phonics instruction from which the textbook compilers and teacher-educators can draw upon.
Finally, for policy makers to make informed decisions about how input may be modified, ongoing information on learner performance is needed. Hence, it is suggested that the government set up a faculty to evaluate the implementation of the curriculum.

8.4.2 Implications for textbook compilers

The textbook analysis indicates that the presentation of phonics in the textbooks does not encourage its use and hence does not appear to fulfill the curriculum

objectives as stated by the government. One major issue with the presentation of phonics is that it is both physically and functionally separated from the lesson content. As a result, it is not used when teaching the main lesson. The relevance of phonics to learning to read would be clearer if the phonics content were integrated into the main lesson in each unit of the textbook. Moreover, if phonics is to be effectively used and seen by learners as useful and relevant to their literacy learning, it is necessary to teach phonics as soon as students are exposed to and therefore expected to understand print and it is therefore appropriate to have phonics content from Lesson One onwards. It is suggested therefore that the first textbook contains meaningful simple reading in the context of picture stories and that the phonics content is placed alongside such that it is indicated as part of the main lesson. The phonics content of the first few lessons should be common phonics rules that can be referenced to words in the associated lesson. Relevant and usable phonics, learned at the start of literacy learning, may provide the catalyst learners need to use phonics in preference to L1 approaches to word-reading.

Learners in Taiwan receive a concentrated period of tuition on Chinese phonetic symbols before learning to read Chinese, and they used to receive a concentrated period of K.K. tuition at the beginning of the English curriculum. In both cases the aim is to equip learners with a tool to retrieve and record the sounds of the language. Currently phonics is the only tool taught to EFL elementary school learners in Taiwan for linking print to sounds and hence the equivalent action

would be to offer a concentrated period of phonics tuition before learners learn to read in English. However, phonics is best learned using already known words or with meaning taught simultaneously. This is because meaning is tied to the particular sound-letter correspondence and hence is part of phonics knowledge. Additionally, connections made by the learner between sound, print and meaning are more likely to promote acquisition than connections between sound and print only. The suggested presentation of phonics alongside and referenced to words in the associated lesson does, however, make the task of demonstrating the relevance of phonics a little more difficult. This is because even in the simplest texts there are many English words that cannot be referenced to common rules (e.g., are, I, the, have). Straight teaching of common sound-letter correspondences (i.e., without teaching of meaning) before initial literacy teaching might seem like an appropriate way of instilling in learners confidence in the efficacy of and the instinct to use phonics. Unfortunately, however, if taught without reference to meaning, this would simply lead to disappointment and confusion when literacy learning begins and ‘common rules’ are broken (e.g., *have* breaks the common sound rule for vowel-consonant-e). Therefore teaching phonics alongside and referenced to words in the associated lesson is the suggested method given the local context. This requires teaching that some words (many of the most common words in English) are best learned as ‘sight words’ while others can be more easily remembered by learning a phonics rule that can continue to be applied as learners’ word repertoire and desire for independent learning increase. This requires great skill on the teachers’ part, but

in the first place it needs the support of a well-constructed textbook.

This research has several implications for the structure of the phonics content in the textbooks. The first is that the key vocabulary of the lessons should have some linkage to the teaching of phonics rules. This requirement challenges the ingenuity of textbook compilers because if progression in the phonics rules is also to be achieved, the vocabulary available for use may be restricted, particularly in the early lessons. However, the teaching of common rules in the early lessons that has already been suggested should not make the production of high quality, interesting lesson content that also has some linkage to students' phonics knowledge too difficult a task. More knowledge of sound-letter links may serve as a better basis for learners to infer sounds of unknown letter components and permit phonics to play a more significant role in the teaching process as well as reducing the probability of learners relying on other less efficient strategies to memorize word spelling. Secondly, textbooks need to include more regular word building and spelling practice. Thirdly, to maximize the chances of phonics being used in the teaching / learning process, textbook compilers need to build practice into the lesson content by deliberate use of words that consolidate the phonics rules learners have been taught. This moreover can provide learners with a sense of the utility of phonics by raising the chances of its successful application. Finally, to promote better understanding of English spelling, it may be useful for textbooks to incorporate some teaching of the orthographic regularities of English.

8.4.3 Implications for teachers

It is evident that despite their own expectations that learners would use phonics to sound out and spell words, teachers did not gear their input toward fulfilling that expectation. Teachers taught to the textbooks and reported feeling constrained by the social contextual factors extant in Taiwan. Nevertheless, if teachers suspect that there is a better way they should have the confidence in their own convictions to suggest and promote change.

Teachers made the most of opportunities provided in the textbooks to establish learners' phonics knowledge, yet there was an absence of regular practice of encoding and decoding skills. Under current conditions, it is possible for teachers to enhance the use of phonics in the teaching process while still maintaining the frame of teaching. Phonics can for example be incorporated into the introduction of vocabulary when that vocabulary contains a common phonics rule or rules. Instead of a whole word presentation, teachers can provide phonemes of unknown words as they identify the relational unit and allow learners to sound the words out. In cases where an oral form is known, teachers can lead learners to segment and construct the written form according to its component sounds. The benefit of making decoding and encoding a regular classroom practice is that over time phonics can become part of the learners' automatic strategic repertoire.

Whereas learners appear to recognize the limitations of phonics as a

pronunciation system, the teachers appeared to feel that phonics was an adequate replacement for K.K. In discussing the potential teaching of K.K. in elementary schools, teachers were concerned that the symbols might confuse primary school students. There is no evidence to support this belief, yet it is understandable that teachers should be wary of additional learning load being added into the early literacy curriculum. Consideration needs to be given to whether the learning of a phonetic alphabet has advantages that outweigh the disadvantages of extra learning effort and/or time lost to other learning goals. It is the personal experience of this researcher (in her own teaching) that K.K. symbols can be taught to elementary school learners alongside phonics when teaching new words and that there is utility in it for the students. Teachers, as with policymakers, should therefore consider the benefits of teaching a phonetic alphabet alongside phonics.

The teachers had little confidence in learners' ability to self-teach. The word learning task in this study provides evidence to the contrary, however. Giving students opportunities to use phonics in achievable self-teaching exercises will not only encourage the use of phonics but will also increase its perceived utility. Similarly, providing interesting reading materials that are appropriate to learners' level of English to read independently may be a way to improve learners' perception and use of phonics. Reading in English is currently viewed negatively by learners and this may be a consequence of giving learners reading tasks in English only as a means to consolidate learned knowledge.

The tests of learners' new word learning reflect the influence of an examination system that rewards rote memorization of the written form, and this leads to another pedagogical implication. The dominance of written tests does not provide the necessary encouragement for the use of phonics. This research also brings into question the efficacy of the dictation test as a common method of assessment. Dictation tests do not require that learners establish an auditory memory of words and nor do they require that learners establish the sound-meaning or print meaning link. For the purpose of promoting phonics use teachers may need to emphasize oral assessment.

8.4.4 Implications for teacher educators

Although the teachers in the study demonstrated awareness of how phonics worked for Taiwanese learners, in general, they did not possess a thorough understanding of how it could work differently for different types of learners and how phonics can be taught in different ways from that adopted by the textbooks. In addition, the fact that the teachers' teaching input did not allow learners to fulfill the teachers' expectations indicates that more detailed guidance and training is needed to help teachers implement the teaching objectives more effectively. Training programs, therefore, need to equip teachers with a better understanding of phonics and its teaching.

Further, a general point that applies to phonics instruction just as it does to all

English instruction in state schools in Taiwan: teachers will be faced with grossly different ability levels in their classes from Day 1. The textbooks make no provision for graded or differentiated input or tasks and so the responsibility falls on the teachers to plan different difficulty levels and / or extension activities into their lessons. Teacher educators need to prepare teachers by stressing that grossly mixed ability classes are the norm in English classes and by teaching lesson-planning for mixed ability groups in their teacher-training programmes.

8.5 Limitations

Like so many other studies investigating issues within the area of language learning, this research has its limitations.

First, the instruments used in the study (self-report questionnaires and interviews) have the potential to provide answers that respondents think are wanted or what they would like to be or think true in place of what is actually true. Wider triangulation of measures would have been preferable had time and resources permitted.

Second, the conditions created in the diagnostic tests and tasks, particularly the imposed time limit, may have affected the outcomes of those tests and tasks. In addition, the English teaching input reported upon here is not for all students the only input as many students attend private evening classes and the learning and

strategy use may be influenced by these other classes. Hence, the results of the study cannot be viewed as an evaluation of the effect solely of the phonics program in the primary school.

Further, although concerned with the role and efficacy of phonics instruction on Taiwanese EFL learners' literacy development, this study predominately focuses on its impact on lexical acquisition and hence does not cover a wide range of reading behaviour that is central to learning to read. Also, it must be noted that because the diagnostic tests and tasks aimed to investigate the efficacy of phonics in the various roles it plays as opposed to the efficacy of a phonics program, the students chosen for these tasks were required to have a good knowledge of phonics and the outcome can therefore only be applied to this group of learners. Moreover, the strategic patterns observed in both the questionnaire and tasks and tests may be a product of the specific learning culture in Taiwan and the L1 learning experience of Taiwanese learners. Hence, findings may not be generalizable to EFL learners from other geographical, pedagogical, cultural or socio-economic contexts.

Finally, language learning is an ongoing, lifelong process, heavily influenced by individual preferences, personality disparities, motivational factors and a host of other variables. Synchronic studies such as this focusing on the influence of specific factors during certain stages of learning can therefore only provide reliably valid information in relation to the specific context and conditions.

8.6 Suggestions for future research

Classroom practice and outcomes in this research were evaluated via teacher interviews, student questionnaires, and tests. Observation of the actual classroom phonics and literacy instruction can provide a more contextualized account of the actual teaching/learning process and confirm and complement or contradict the results of this study. In either case it would be a very valuable addition to the research performed here.

Observation of learners engaging in the process of memorizing word spelling or word learning tasks in a normal classroom environment may produce more reliable information regarding this activity than was collected under the experimental conditions in this study.

The attendance of some students at private schools to learn English produces great variation in ability in the state school classroom. While there are difficulties in discerning the impact of primary school phonics teaching from that of private tuition, analysis of the phonics content of textbooks used in major private institutes and / or analysis of how these institutes conduct phonics and literacy teaching can provide some valuable insight.

This study recommends that K.K. be taught to Taiwanese primary school learners alongside phonics. However, there is no research to support or refute the value or

efficacy of this route to learning pronunciation. Research verification is therefore needed to support the recommendation made here. Moreover, although potentially difficult to carry out, intervention studies on primary school learners under pure phonics instruction versus those under pure K.K. phonetic teaching may yield results that allow policy makers to make more informed decisions regarding the teaching of phonics.

As mentioned in this research, whether word frequency and length and the number of phonemes in a word affects EFL learners spelling strategy still awaits research specification. Finally, longevity studies on learners at different stages of phonics learning and on how their strategy use alters with the differing degree of phonics knowledge and print exposure are also lacking.

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Appendix 1.1 K.K. and IPA vowel phoneme conversion chart

K.K.	IPA	Example Words
/i/	/iː/	eat ; teeth
/ɪ/	/ɪ/	in; English
/e/	/eɪ/	eight; steak
/ɛ/	/e/	bed; bread
/æ/	/æ/	bad; angry
/ɑ/	/ɑː/	box; watch
/o/	/əʊ/	window; boat
/ɔ/	/ɔː/	dog; sauce
/ɯ/	/uː/	tooth; flute
/ʊ/	/ʊ/	hook; put
/ɝ/	/ɜː/	bird; turtle
/ɚ/	/ə/	sister; doctor
/ʌ/	/ʌ/	bus; brother
/ə/	/ə/	upon; enough
/ɑɪ/	/aɪ/	hi; flight
/ɑʊ/	/aʊ/	sound; town
/ɔɪ/	/ɔɪ/	toy; soil
/ɪr/	/ɪə/	tear; steer
/ɛr/	/eə/	pear; bare
/ʊr/	/ʊə/	tour; sure

Appendix 1.2 Glossary of the Chinese phonetic symbols (ZYFH)

ㄅ b	ㄆ p	ㄇ m	ㄈ f	ㄉ d	ㄊ t	ㄋ n	ㄌ l
ㄍ g	ㄎ k	ㄏ h	ㄐ j	ㄑ q	ㄒ x	ㄓ zh	ㄔ ch
ㄕ sh	ㄖ r	ㄗ z	ㄘ c	ㄙ s	ㄚ a	ㄛ o	ㄜ e
ㄝ ye	ㄞ ai	ㄟ ei	ㄠ ao	ㄡ ou	ㄢ an	ㄣ en	ㄤ ang
ㄥ eng	ㄦ er	ㄧ(y)i	ㄨ(w)u	ㄩ yu			

Appendix 3.1: Summary of all the instruments of data collection and the aims

Phase 1— textbook analysis
Textbook analysis: To identify the underlying assumption of the role of phonics and the role of phonics in the teaching process
Phase 2— interviews
Teacher interview: To explore the teachers' perceptions, beliefs and attitude related to phonics and English literacy and the role of phonics in the teaching process
Phase 3— questionnaires
Student questionnaire: To explore the students' beliefs, attitudes and perception of phonics and English literacy and their learning strategies
Phase 4—A battery of diagnostic tests and tasks
Visual or phonological: To investigate the extent to which the learner applies phonics skills in word learning tasks **Spelling strategy:** To investigate the extent to which the learner applies phonics skills in spelling tasks **Oral story reading:** To investigate how well phonics works as a pronunciation system **Sound distinction test:** To explore whether learners under phonics instruction are able to distinguish vowel phonemes.

Appendix 3.2: Teacher interview questions

Teachers' perceptions, beliefs and attitudes related to phonics teaching and English literacy

1. How do you define phonics? How would you describe phonics to a parent who doesn't know what it is? (2a)
2. What expectations do you have for learners who have learned phonics? (2a)
3. What is your opinion on the teaching of phonics (attitudes)? Are there any aspects of phonics you consider inadequate? (2a)
4. Do you think phonics is essential for learning to read in English (2a)?
5. How do you think phonics and K.K. differ? (2a)
6. What is your opinion on the teaching of K.K. (attitudes)? Do you think K.K. should be taught to primary school learners? Why/Why not? (2a)
7. Do you think learners should be taught all the sounds of English at an early stage of English learning? Why/Why not? (2a)
8. Do you think learners should be taught at primary school stage to use a tool that allows them to independently get the correct sounds of new words? Why/Why not? (2a)

Teaching approaches

9. When do you think phonics teaching should start? Should it be taught after students have learned sufficient spoken English? (2b)
10. Should the words selected to demonstrate phonics rules be the words they have learned the spoken form of or should they be new to the learners? (2b)
11. How do you think phonics should be taught? (2b)
12. Do you think phonics teaching should follow a specific order? Do you think the order of the rules should depend on the vocabulary of the lessons? Why/Why not? (2b)
13. Are you happy with the way phonics teaching is presented in the textbook you are using? (2b)
14. In your opinion when should the teaching of reading and writing start? Should it start after students have learned sufficient spoken English? Why/Why not? (2c)
15. Do you think written words should be taught after most of the phonics rules that govern them have been taught? (2c)
16. What do you think is the relationship between phonics and self-teaching? (2d)
17. What's your opinion on learners' ability to self-teach? If your students have learned all the phonics rules in the textbooks and you give them a list of new words with pictures to indicate their meanings to learn independently, what do you think the outcome may be? (2d)
18. If a teacher wants to assign reading a new story book as homework, in your

opinion, should she read through the story book with the students and explain what it is all about first? (2d)

19. Could you describe how you teach a new lesson? (3a)
20. How do you teach new words? Do you separate the teaching of the written form and spoken form? (3a)
21. Do you ever assign homework to your students? What kind of homework? Have you ever assigned students homework or tasks that may require that they learn or have contact with new words or expressions independently? (3b)
22. When do you start giving students spelling tests? (3c)
23. What are some of the ways you use to test your students vocabulary? Is the content of the test limited to what has been taught in class? (3c)
24. How do you score students' spelling mistakes? Do you take all the points away if students spell one letter wrongly? Do you consider 'brithday' or 'burthday' the more serious spelling mistake? (3c)

Teachers' awareness of the effect of phonics instruction

25. In your experience, are those students who've learned phonics always able to sound out words accurately? (3d)
26. Do your students use Zhu-Yin-Fu-Hao or Chinese characters to note down the sounds of words to remind them how they sound? (3d)
27. What are some of the strategies your students use to remember the spelling of words? (3d)
28. Are you satisfied with the effect of phonics teaching? (3d)

Appendix 3.3 Student Questionnaire

Dear Student,

Thank you for doing the questionnaire. I am currently a PhD student at Warwick University in England and am working on a research project related to literacy development in EFL. By answering the questionnaire, you contribute greatly to my research. There are no right or wrong answers to the questions and you don't have to write down your name. All the answers will be kept confidential and used only for my research. So, please feel free to answer. There are 32 questions in total and it will take between five to ten minutes of your time. Thanks again for taking part.

Researcher,
Kuo Ling-Chun

(e.g. Taipei, Tainan…)

Age: year of English Study: Sex: School District:

Part I

1. Phonics is a pronunciation system.
   ☐ strongly agree ☐ agree ☐ disagree ☐ strongly disagree ☐ not sure
2. Learning phonics allows a student to read out new words correctly without being taught.
   ☐ strongly agree ☐ agree ☐ disagree ☐ strongly disagree ☐ not sure
3. The function of phonics is the same as K.K.
   ☐ strongly agree ☐ agree ☐ disagree ☐ strongly disagree ☐ not sure
4. If students learn phonics well, they don't need to learn K.K.
   ☐ strongly agree ☐ agree ☐ disagree ☐ strongly disagree ☐ not sure
5. If students weren't taught phonics, they would never know what sounds letters make.
   ☐ strongly agree ☐ agree ☐ disagree ☐ strongly disagree ☐ not sure
6. Phonics allows students to comprehend reading without having to be taught.
   ☐ strongly agree ☐ agree ☐ disagree ☐ strongly disagree ☐ not sure
7. Learning phonics makes it easier to memorize word spellings.
   ☐ strongly agree ☐ agree ☐ disagree ☐ strongly disagree ☐ not sure

Part II

8. It is more important to know what a word means than how it sounds.
   ☐ strongly agree ☐ agree ☐ disagree ☐ strongly disagree ☐ not sure
9. Being able to read in English is more important than being able to speak in English.
   ☐ strongly agree ☐ agree ☐ disagree ☐ strongly disagree ☐ not sure
10. I read in English only if I want to improve my English.
    ☐ strongly agree ☐ agree ☐ disagree ☐ strongly disagree ☐ not sure
11. I enjoy reading in English.
    ☐ strongly agree ☐ agree ☐ disagree ☐ strongly disagree ☐ not sure
12. I enjoy reading in Chinese.
    ☐ strongly agree ☐ agree ☐ disagree ☐ strongly disagree ☐ not sure
13. Before a teacher assigns reading a story book as homework, she should teach all the new words in it first.
    ☐ strongly agree ☐ agree ☐ disagree ☐ strongly disagree ☐ not sure

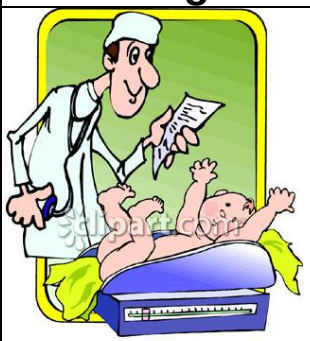
14. Before a teacher assigns reading a story book as homework, she should tell the students what the story is about..
☐ strongly agree ☐ agree ☐ disagree ☐ strongly disagree ☐ not sure

Part III Read the five words below and answer the rest of the questions
1. impact 2. rhythm 3. perceive 4. prohibit 5. megalomaniac

15. I know the sounds of the most letters or letter combinations.
☐ strongly agree ☐ agree ☐ disagree ☐ strongly disagree ☐ not sure
16. I learn phonics well.
☐ strongly agree ☐ agree ☐ disagree ☐ strongly disagree ☐ not sure
17. Most of the time, I find it easy to sound out new words.
☐ strongly agree ☐ agree ☐ disagree ☐ strongly disagree ☐ not sure
18. Most of the time, I am certain of the sounds of new words before they are taught.
☐ strongly agree ☐ agree ☐ disagree ☐ strongly disagree ☐ not sure
19. I can usually remember how words are read after they are taught.
☐ strongly agree ☐ agree ☐ disagree ☐ strongly disagree ☐ not sure
20. I used Zhu-Yin-Fu-Hao to help me note down the sounds of new words.
☐ strongly agree ☐ agree ☐ disagree ☐ strongly disagree ☐ not sure
21. I still use Zhu-Yin-Fu-Hao to help me note down the sounds of new words.
☐ strongly agree ☐ agree ☐ disagree ☐ strongly disagree ☐ not sure
22. I use phonics when I read unfamiliar text.
☐ strongly agree ☐ agree ☐ disagree ☐ strongly disagree ☐ not sure
23. I use phonics when I read familiar text.
☐ strongly agree ☐ agree ☐ disagree ☐ strongly disagree ☐ not sure
24. I think I am able to spell unknown words if they are read to me.
☐ strongly agree ☐ agree ☐ disagree ☐ strongly disagree ☐ not sure
25. Which of the following methods do you use to remember word spelling? Check those you use frequently.
☐ letter name repetition ☐ repeated copying of words ☐ repeatedly reading words ☐ looking at a word repeatedly or continuously
☐ others _____

Appendix 3.4a: Word learning strategy

Word List

			
canyon	**mascara**	**cardigan**	**centipede**
			
poinsettia	**stethoscope**	**pediatrician**	**chrysanthemum**

Appendix 3.4b: ***Test sheet 1: Visual memory***

Age: Year of study:

Which of the following words are on the list? Please tick the box ☑ in front of the words.

1. ☐ caynon
2. ☐ centipede
3. ☐mascara
4. ☐ pediatricain
5. ☐ poinsettia
6. ☐ cardigan
7. ☐ chrysnathemum
8. ☐ stethocscope
9. ☐ chrysanthemum
10. ☐ ponisettia
11. ☐ cardagin
12. ☐ stethoscope
13. ☐ canyon
14. ☐ centepide
15. ☐ pediatrician
16. ☐ masraca

Appendix 3.4c: *Test sheet 2: Auditory memory*

Listen carefully. Please mark ✓in the space provided if you think the word named is from the list, mark × if not.

1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____
7. _____ 8. _____ 9. _____ 10. _____ 11. _____ 12. _____
13. _____ 14. _____ 15. _____ 16. _____

(word list: caynon, centipede, mascara, pediatricain, poinsettia, cardigan, chrysanthemum, stethocscope, chrysnathemum, ponisettia, cardagin, stethoscope, canyon, centepide, pediatrician, masraca)

Appendix 3.5: Spelling strategy test

Word list

gnome (NR), logic (R), rhythm (NR), impact (R), complex (R), pharynx (NR), prohibit (R), mnemonic (NR), croquette (NR), extrinsic (R), millennium (NR), contradict (R), destructive (R), bureaucracy (NR), megalomaniac (R), clairvoyance (NR), alternatively (NR), instinctively (R)

R: Regular— words that have more regular one to one phoneme-grapheme correspondence.

NR: Not Regular—words which have spellings that are less likely to rely only on sound-letter conversion rules to memorize but involve some degree of visual attention.

Appendix 3.6: Oral Story Reading

The sun and the wind

The Wind and the Sun were disputing which was the stronger. Suddenly they saw a traveller coming down the road, and the Sun said: “I see a way to decide our dispute. Whichever of us can cause that traveller to take out his cloak shall be regarded as the stronger. You begin.” So the Sun retired behind a cloud, and the Wind began to blow as hard as it could upon the traveller. But the harder he blew the more closely did the traveller wrap his cloak round him, till at last the Wind had to give up in despair. Then the Sun came out and shone in all his glory upon the traveller, who soon found it too hot to walk with his cloak on.

Kindness effects more than severity

A. Please underline the words that are new to you.

B. Please place a tick under the new word(s) which you can infer the meaning of after you sound it out

Appendix 3.7: sound distinction test

Please tick the box ☑ if the letters underlined share the same sound, ☒ if they don't.

1. p<u>a</u>per	J<u>a</u>nuary	☐
2. <u>e</u>leven	<u>i</u>n	☐
3. f<u>oo</u>d	bl<u>ue</u>	☐
4. <u>A</u>pril	<u>a</u>pple	☐
5. g<u>o</u>	d<u>o</u>g	☐
6. d<u>e</u>sk	r<u>ai</u>n	☐
7. fr<u>ui</u>t	m<u>oo</u>n	☐
8. t<u>ee</u>th	m<u>e</u>	☐
9. h<u>a</u>t	h<u>a</u>s	☐
10. p<u>i</u>nk	t<u>ea</u>	☐
11. h<u>o</u>me	wind<u>ow</u>	☐
12. g<u>oo</u>d	p<u>u</u>t	☐
13. f<u>u</u>n	h<u>o</u>t	☐
14. b<u>oa</u>t	c<u>o</u>st	☐
15. s<u>u</u>n	br<u>o</u>ther	☐

What do you think of the exercise?

☐ very difficult ☐ difficult ☐neutral

☐easy ☐very easy

Appendix 3.8: Phonics rules inherent in the basic 1200 words and their frequency of occurrence

Letter(s)	Phonetic symbols	Example	No. of occurrences
Alphabetical letters			
a	**/æ/**	**apple**	**138**
a	**/ɑ/**	w**a**nt	18
a	**/e/**	l**a**zy	28
a	**/ɛ/**	m**a**ny	10
a	**/ɪ/**	or**a**nge	4
a	**/ə/**	**a**top	23
a	**/ə/**	Christm**a**s	27
b	**/b/**	**b**at	117
c	**/k/**	**c**at	90
c	**/s/**	**c**ity	19
d	**/d/**	**d**og	177
e	**/ɛ/**	**e**gg	135
e	**/i̇/**	h**e**	14
e	**/ɪ/**	z**e**ro	53
e	**/ə/**	sent**e**nce	56
f	**/f/**	**f**ish	77
g	**/g/**	**g**irl	37
g	**/dʒ/**	**g**ym	8
h	**/h/**	**h**at	80
i	**/ɪ/**	**i**nk	146
i	**/ ɑɪ/**	h**i**	28
i	**/ə/**	an**i**mal	14
j	**/dʒ/**	**j**am	13
k	**/k/**	**k**ite	74
l	**/l/**	**l**eg	90
l	**/l/**	fai**l**	49
m	**/m/**	**m**ilk	99
m	**/m**	To**m**	67
n	**/n/**	**n**ew	80
n	**/n/**	li**n**e	218
o	**/ɑ/**	h**o**p	59
o	**/o/**	g**o**	38
o	**/ʌ/**	m**o**ther	18
o	**/ ɔ/**	d**o**g	20
o	**/u/**	t**o**	8
o	**/ə/**	t**o**day	31
p	**/p/**	**p**ig	114
qu	**/kw/**	**qu**een	7
r	**/r/**	**r**ed	85
r	**/r/**	fi**r**e	7
s	**/s/**	**s**ad	162
s	**/z/**	a**s**	46
t	**/t/**	**t**en	311
u	**/ʌ/**	**u**p	46
u	**/ʊ/**	p**u**sh	7
u	**/u/**	st**u**dent	7
u	**/ju/**	**fu**ture	9
u	**/ɪ/**	b**u**sy	4
u	**/ə/**	Aug**u**st	5
v	**/v/**	**v**an	60
w	**/w/**	**w**ash	59
x	**/ks/**	bo**x**	14
y	**/j/**	**y**o-**y**o	79
y	**/ɑɪ/**	cr**y**	16
y	**/i/**	sunn**y**	79
y	**/ɪ/**	g**y**m	5
z	**/z/**	**z**ebra	**7**
More Vowels			
a_e	**/e/**	c**a**k**e**	40
ai	**/e/**	p**ai**nt	19
ay	**/e/**	d**ay**	27
au	**/ɔ/**	s**au**ce	2
aw	**/ɔ/**	cl**aw**	4
ea	**/ɛ/**	br**ea**d	14
ea	**/i/**	**ea**t	**36**
ea	**/e/**	st**ea**k	3
ee	**/i/**	s**ee**	40
e_e	**/i/**	th**e**s**e**	6
ew	**/u/**	n**ew**	2
ew	**/ju/**	f**ew**	2
ey	**/i/**	k**ey**	3
ey	**/e/**	ob**ey**	4
eigh	**/e/**	**eigh**t	4
eign	**/ ɪn/**	for**eign**	2
ie	**/i/**	cook**ie**	2
ie	**/ɑɪ/**	d**ie**	6
ie	**/ɛ/**	fr**ie**nd	2
i_e	**/ɑɪ/**	b**i**k**e**	49
i_e	**/ɪ/**	g**i**v**e**	6
igh	**/ɑɪ/**	h**igh**	7
oa	**/o/**	b**oa**t	5
oa	**/ɔ/**	abr**oa**d	2
oe	**/o/**	t**oe**	1
oe	**/u/**	sh**oe**	1
o_e	**/o/**	r**o**s**e**	15
o_e	**/ ʌ/**	l**o**v**e**	13
o_e	**/u/**	l**o**s**e**	2
oi	**/ɔɪ/**	c**oi**n	6
oo	**/u/**	f**oo**d	27
oo	**/ʊ/**	b**oo**k	10
ou	**/u/**	s**ou**p	3
ou	**/ɑʊ/**	**ou**t	24
ou	**/ʌ/**	c**ou**ntry	5
ou	**/ə/**	fam**ou**s	3
ow	**/ɑʊ/**	h**ow**	10
ow	**/o/**	wind**ow**	22
oy	**/ɔɪ/**	b**oy**	4
augh	**/ɔ/**	d**augh**ter	1

ough	**/ɔ/**	th**ough**	2
ough	**/ʌf/**	en**ough**	1
ue	**/u/**	bl**ue**	3
ue	**/ʊ/**	T**ue**sday	4
u_e	**/u/**	fl**ute**	3
u_e	**/ju/**	c**ute**	2
ui	**/u/**	fr**ui**t	2
r- controlled vowels			
ar	**/ar/**	c**ar**	33
ar	**/ɚ/**	doll**ar**	3
are	**/ɛr/**	c**are**	6
arr	**/ær/**	c**arr**y	1
air	**/ɛr/**	h**air**	7
er	**/ɚ/**	sist**er**	97
er	**/ɝ/**	cl**er**k	2
ear	**/ɪr/**	**ear**	7
ear	**/ɛr/**	b**ear**	3
ear	**/ɝ/**	**ear**th	3
eer	**/ɪr/**	ch**eer**	2
ere	**/ɛr/**	wh**ere**	3
ir	**/ɝ/**	b**ir**d	14
or	**/ɔr/**	p**or**k	24
or	**/ɚ/**	doct**or**	8
oor	**/ɔr/**	d**oor**	2
ore	**/ɔr/**	m**ore**	7
our	**/ɔr/**	p**our**	2
our	**/aʊr/**	h**our**	5
ture	**/ tʃɚ/**	fu**ture**	4
ur	**/ɝ/**	p**ur**se	14
ure	**/ur/**	s**ure**	1
wor	**/wɝ/**	w**or**k	6
Vowel Combinations			
al	**/ɔl/**	**al**so	10
al	**/ɔ/**	s**al**t	4
all	**/ɔl/**	b**all**	11
alk	**/ɔk/**	t**alk**	4
eye	**/aɪ/**	**eye**	1
igh	**/aɪ/**	f**igh**t	2
ign	**/aɪn/**	s**ign**	1
ind	**/aɪnd/**	k**ind**	5
ing	**/ɪŋ/**	s**ing**	23
old	**/old/**	g**old**	3
ould	**/ ʊd/**	w**ould**	2
cious	**/ʃəs/**	deli**cious**	1
sci	**/saɪ/**	**sci**ence	1
sion	**/ʒən/**	televi**sion**	1
sure	**/ʒə/**	plea**sure**	1
tain	**/tn̩/**	moun**tain**	1
tion	**/ʃən/**	na**tion**	7
Digraphs			

bb	**/b/**	ho**bb**y	1
cc	**/k/**	so**cc**er	1
cc	**/ks/**	su**cc**ess	1
ch	**/tʃ/**	**ch**ick	35
ch	**/k/**	stoma**ch**	2
ck	**/k/**	chi**ck**	30
dd	**/d/**	da**dd**y	1
ff	**/f/**	cli**ff**	7
gg	**/g/**	e**gg**	1
gh	**/f/**	lau**gh**	4
gh	**/g/**	**gh**ost	3
gn	**/n/**	forei**gn**er	2
kn	**/n/**	**kn**ife	**5**
ll	**/l/**	te**ll**	26
mb	**/m/**	la**mb**	2
mm	**/m/**	co**mm**on	4
mn	**/m/**	autu**mn**	1
nc	**/ŋk/**	u**nc**le	1
ng	**/ŋ/**	sa**ng**	9
ng	**/ ŋg/**	fi**ng**er	2
nk	**/ŋk/**	si**nk**	7
nn	**/n/**	di**nn**er	4
ph	**/f/**	**ph**one	**6**
pp	**/p/**	ha**pp**y	**6**
rr	**/r/**	bo**rr**ow	**9**
sh	**/ʃ/**	**sh**ort	**33**
ss	**/s/**	flo**ss**	25
st	**/s/**	ca**st**le	2
th	**/θ/**	**th**in	27
th	**/ ð/**	**th**ere	27
tt	**/t/**	li**tt**le	11
wh	**/h/**	**wh**o	2
wh	**/hw/**	**wh**ale	8
xc	**/ks/**	e**x**cited	4
wr	**/r/**	**wr**ite	3
Trigraphs			
chr	**/kr/**	**chr**istmas	1
sch	**/sk/**	**sch**ool	2
tch	**/ tʃ/**	ca**tch**	3
Blends			
bl	**/bl/**	**bl**ock	10
br	**/br/**	**br**eak	15
cl	**/cl/**	**cl**ass	14
cr	**/cr/**	**cr**azy	6
dr	**/dr/**	**dr**ive	12
fl	**/fl/**	**fl**y	5
fr	**/fr/**	**fr**uit	15
gl	**/gl/**	**gl**ad	6
gr	**/gr/**	**gr**een	20
pl	**/pl/**	**pl**ay	11
pr	**/pr/**	**pr**ice	14
sl	**/sl/**	**sl**ow	4
sm	**/sm/**	**sm**all	5
sn	**/sn/**	**sn**ake	5
sc	**/sk/**	**sc**ared	2
sk	**/sk/**	**sk**irt	4
sp	**/sp/**	**sp**oon	9

st	**/st/**	**st**op	20
sw	**/sw/**	**sw**eet	4
tr	**/tr/**	**tr**ee	14
tw	**/tw/**	**twelve**	4
Three-letter blends			
scr	**/skr/**	**scr**een	1
spr	**/spr/**	**spr**ing	1
squ	**/skw/**	**squ**are	1
str	**/str/**	**str**aw	**7**
thr	**/θr/**	**thr**ee	**3**
Others			
ce	**/s/**	ri**ce**	21
cial	**/ ʃ/**	spe**ci**al	1
se	**/s/**	hor**se**	10
se	**/z/**	no**se**	7
ge	**/dʒ/**	garba**ge**	11
gu	**/g/**	**guess**	3
dge	**/ dʒ/**	bri**dge**	3
le	**/l̩/**	litt**le**	24
thes	**/z/**	clo**thes**	1
-ed	**/ɪd/**	want**ed**	2
-ed	**/d/**	play**ed**	2
-es	**/ɪz/**	peach**es**	1
-es	**/z/**	do**es**	1
un-	**/ ʌn/**	**un**happy	1
-ful	**/fəl/**	beauti**ful**	5
-ly	**/li/**	slow**ly**	4

Appendix 3.9: Sample Interview Transcript (English translation)

Interview 3

S: How would you describe phonics to a parent who doesn't know what it is?
T3: Phonics…let me think about how I would explain it…I think I would tell him that it's a natural way of pronouncing a word. It teaches the sounds of letters. He may ask why not teach K.K…I would then tell him that it's a natural way of reading out words; upon seeing a word, learners will naturally sound it out…it works like Zhu-Yin-Fu-Hao in Chinese. Phonics works like Zhu-Yin-Fu-Hao.
S: Do you think its function is the same as Zhu-Yin-Fu-Hao?
T3: Not the same but they both work the same in that they both require learners to assemble sounds to make out the sounds of a word. I would tell parents that phonics works the same because they know how Zhu-Yin-Fu-Hao works but they don't know about phonics. So, I use it as a comparison to help them understand how phonics works.
S: You just mentioned Zhu-Yin-Fu-Hao. Do you know the role Zhu-Yin-Fu-Hao plays in Taiwanese learners' Chinese literacy development? Is there a system that you think plays or should play a similar role in the English literacy development of our learners?
T3: Phonics can play the role…but I suppose it isn't really as consistent because in Chinese, one symbol is linked to one sound without exceptions. But in English, phonics has too many exceptions. So, when we are teaching phonics, we constantly have to tell them that there are exceptions to the rules. I think vowel sounds are particularly problematic so we still need to teach them K.K. to supplement the drawbacks of phonics when students are older…I suppose in a way K.K. works more like our Zhu-Yin-Fu-Hao.
S: How do you think K.K. and phonics differ?
T3: Symbols. K.K. is a set of symbols but phonics is the sounds of 26 letters and their combinations. They are different.
S: How about their functions?
T3: I think children should learn phonics first but they also need to learn K.K. I think K. K. is necessary.
S: Why do you think K.K. is necessary?
T3: I think because English is a foreign language. If English were our native language, I don't think we'd need K.K. But because it's a foreign language, we don't have enough exposure to it. There are irregular words; when students have to learn irregular words, K.K. works better. Also, I think children have difficulty separating longer words into suitable parts; it's easier to use K.K.
S: Do you think phonics is a pronunciation system?
T3: Yes, I think it's also a pronunciation system, only it doesn't have symbols; it has rules. K.K. simply symbolizes the sounds.
S: Thank you. You mentioned early on that K.K. should be taught to older learners. Why older learners?
T3: I think it's better to teach students K.K. when they are older, perhaps

about year 5 or 6 when they are very familiar with phonics because after all, I think phonics can only be applied to about 80% of all English words; there are many exceptions. The longer they learn English, the more irregular words they will have to learn. When that happens, I use K.K. to indicate the sounds, so they have to learn K.K. As for younger learners, they already have to learn the 26 letters of the alphabet; adding K.K. symbols will confuse them.

S: So, do you think the reason is because younger learners will mix the symbols up?

T3: Yes! I think the number of words younger learners have to learn is fewer and they tend to be shorter and more regular, so using phonics is enough.

S: How about teaching K.K. once students are very familiar with the alphabet, then using the sound symbols to help students learn phonics?

T3: I think K.K. is another set of symbols…too many symbols will complicate the learning process. In reality, I think learning phonics is learning K.K. The only difference is that we don't tell learners the symbols for the sounds. So, I think introducing the symbols after students have learned phonics, because they will be more familiar; they will learn K.K. very quickly. Of course, for those who don't learn phonics well, they can learn the symbols directly; there's no need to combine K.K. with phonics. Anyway, they will be able to make the links eventually.

S: You mentioned that K.K. should be taught to older learners when they are more familiar with phonics. Do you consider it important that learners should have learned phonics before being taught K.K.?

T3: Yes, because I think once they are familiar with the sound-letter links, it's much quicker for them to learn K.K…we just need to add symbols to the sounds.

S: You mentioned the 'sound-letter links'. As there are only 26 letters in English, are you referring to the sounds of A to Z?

T3: The sounds of A to Z are only the basics. Once they are familiar with the basics, we can move to more advanced phonics, like the sounds of 'e_e, ee, ea'.

S: Thank you. What are your expectations for students who have learned phonics?

T3: I think phonics knowledge is essential in learning to sound out and to spell words, so I expect them to be able to link sounds to letters to sound words out and to write down the words I say. Basically, I want them to be able to apply phonics knowledge in reading and writing.

S: Does your 'reading' here refer to 'reading words out'?

T3: They don't have to read words out; they can read silently…basically they need to have some idea of how a word sounds…sometimes it may not be accurate but at least it will not be too far off.

S: Thank you. What's your opinion on the teaching of phonics? Do you think it is essential for learning to read in English?

T3: Phonics and reading…I think once learners have learned phonics, they will have fewer obstacles in reading out words. I always assume when students read for meaning, the brain might actually activate the sounds as well even if the words aren't read out…if you know phonics, then this process will not be interrupted. The process of reading will be more fluent…but I guess you aren't necessarily able to get the meaning if you

have not learned the words. So…honestly, I think phonics is essential in helping learners to read out words but I am not sure about its relevance to reading

S: Thanks. Do you think children should be taught all the sounds of English at an early stage of their learning, perhaps at year 3 or 4?

T3: Early stage of their learning…No, but we should allow them to get familiar with English sounds...for example, there are these sounds…

S: So do you mean they should be exposed to the sounds but not taught explicitly?

T3: Hang on…should they be taught what sounds are in English at an early stage of their learning…Thinking about it, I think I do think it's necessary if teaching is to be efficient.

S: How do you think that can be achieved?

T3: I think it cannot be done in a short time. I think learning of the sounds should be divided into different stages. They should only learn single vowel sounds at an early stage and then progress to other combinations.

S: Are you thinking of teaching the sounds through phonics?

T3: Yes, but the sounds can be taught first and the rules introduced later.

S: Do you think learners should be taught at primary school stage to use a tool that allows them to independently get the correct sounds of new words?

T3: Correct sounds of words…I think teaching K.K. will probably achieve that but we have to teach phonics first. I think K.K. can be taught to year 5 or 6 but I am not sure that it should be made compulsory…

S: In your opinion, are there any limitations to what phonics can achieve for Taiwanese learners of English compared with what it can do for English L1 learners?

T3: I have never thought of that…I suppose English L1 learners can get the sounds more accurately than Taiwanese learners.

S: Thank you. When do you think phonics teaching should start?

T3: After they learn the alphabet.

S: Should it be taught after students have learned sufficient spoken English?

T3: I think it's very difficult to judge how much spoken English is sufficient and we don't really have much time to spend on teaching only conversations.

S: Thank you. Do you think phonics teaching should follow a specific order?

T3: I always teach the sounds of A to Z first then select the vowel sounds and use them to make up some words with the consonants for them to practice…I think as long as the sounds of A to Z are taught first, the order of the rest of the rules isn't that important.

S: Thank you. Can I also ask you how you think phonics should be taught?

T3: How...

S: Some textbooks, after a sound-letter link is taught, give example words that contain the link. For example, after introducing the sound of 'a', words such as 'apple', 'ant', 'sad' are given. Some may teach the sounds of…say 'a' 'b' 'g' 'f' and give only words made of these sounds to practice, such as 'bag', 'fag', 'gab' . Some may simply give learners a set of words like 'can', 'van', 'fan' and have the learners figure out the rules and others may teach phonics using a bigger unit, for example, teaching the sound of 'ake' or 'ack' instead of separating them into smaller units. There may also be many other ways of teaching phonics…

T3: I haven't actually thought that phonics can be taught in that many ways. We always use the first way you mentioned, so I have no idea how other methods would work but that's very interesting…we also use chants to teach phonics, so I suppose it has a bit of other methods as well.

S: Do you think words that are used to practice a phonics rule should be words that learners have previously learned the spoken form of?

T3: No, because it would be difficult to find many examples. They haven't really learned that many words when phonics starts.

S: Thank you. Are you happy with the way phonics teaching is presented in the textbook you are using?

T3: Not really but the textbook is chosen by all the teachers together. Every teacher has a different opinion; I might think that phonics is very important, but others might not agree. I suppose it's something on which you have to compromise. Our policy now is that students have to use the same textbook from year 3 through to year 6. So, I have to stick to the textbook that the previous teacher used.

S: What don't you like about the textbook?

T3: It uses words that you can't ask the students to sound out. For example, it puts a word like 'elephant' in Book 1 for year 3 students to learn. It's completely unsuitable. Some students asked me why the sound of 'p' isn't [p]…it's very difficult to explain to them that there are exceptions to the rules, especially after they've just learned the sounds of A to Z. It makes them question the reliability of phonics right at the beginning. I don't really like that.

S: Do you think then that written words should be taught after the phonics rules that govern them have been taught?

T3: I think once learners have learned the sounds of A to Z, they can start learning…at least, they should start learning written words. I prefer to start them with words that can be sounded out using the sounds of A to Z. But I think that is very limited. So, as long as the words aren't too long, they can learn by sight…like sight words. Since they will encounter the words later again, it's better that they are exposed to it now.

S: Thank you. I'd like to ask your opinion on the order of the teaching of the four skills. When do you think should the teaching of reading and writing start? Should it start after students have learned sufficient spoken English?

T3: In theory, it should be so; it seems to be the normal process of language learning. But in reality, in this kind of social environment I think it's neither feasible nor necessary.

S: So what do you think should be the order?

T3: I think the four skills can start at the same time. I think learning written words can help them gain access to the spoken form of the language. For example, when you are sounding out a word, you will build up some memory for its sounds. Of course, speaking and listening practice can also help learners to learn to read and write. For example, if a learner hears 'how are you' often enough, he will very soon know what it means when he sees 'how are you' in words. So, I think the four skills interact and influence each other. I think if learners can hold a pen or can read they can learn the four skills at the same time. I think that way learning will be more efficient.

Appendix 4.1: Comparisons of the rules in the textbooks and the rules from the 1200 basic words arranged according to frequency of occurrence

Letter(s)	Phonetic symbols	Example	No. of occurrences	HE	JE	HD	NWE	ML	GS
t	**/t/**	**t**en	311	✓	✓	✓	✓	✓	✓
n	**/n/**	li**n**e	298	✓	✓	✓	✓	✓	✓
d	**/d/**	**d**og	177	✓	✓	✓	✓	✓	✓
m	**/m/**	**m**ilk	166	✓	✓	✓	✓	✓	✓
s	**/s/**	**s**ad	162	✓	✓	✓	✓	✓	✓
i	**/ɪ/**	**i**nk	146	✓	✓	✓	✓	✓	✓
l	**/l/**	**l**eg	139	✓	✓	✓	✓	✓	✓
a	/æ/	**a**pple	138	✓	✓	✓	✓	✓	✓
e	**/ɛ/**	**e**gg	135	✓	✓	✓	✓	✓	✓
b	**/b/**	**b**at	117	✓	✓	✓	✓	✓	✓
p	**/p/**	**p**ig	114	✓	✓	✓	✓	✓	✓
er	**/ɚ/**	sist**er**	97	✓	✓	✓	✓	✓	
r	**/r/**	**r**ed	92	✓	✓	✓	✓	✓	✓
c	**/k/**	**c**at	90	✓	✓	✓	✓	✓	✓
h	**/h/**	**h**at	80	✓	✓	✓	✓	✓	✓
y	**/i/**	sunn**y**	79	✓	✓	✓	✓		
y	**/j/**	**y**o-**y**o	79	✓	✓	✓	✓	✓	✓
f	**/f/**	**f**ish	77	✓	✓	✓	✓	✓	✓
k	**/k/**	**k**ite	74	✓	✓	✓	✓	✓	✓
v	**/v/**	**v**an	60	✓	✓	✓	✓	✓	✓
o	**/ɑ/**	h**o**p	59	✓	✓	✓	✓	✓	✓
w	**/w/**	**w**ash	59	✓	✓	✓	✓	✓	✓
e	**/ə/**	sent**e**nce	56						
e	**/ɪ/**	z**e**ro	53						
i_e	/**ɑɪ**/	b**i**k**e**	49	✓	✓	✓		✓	✓
s	**/z/**	a**s**	46						
u	**/ʌ/**	**u**p	46	✓	✓	✓	✓	✓	✓
a_e	**/e/**	c**a**k**e**	40	✓	✓	✓		✓	✓
ee	**/i/**	s**ee**	40	✓	✓	✓	✓	✓	✓
o	**/o/**	g**o**	38				✓	✓	
g	**/g/**	**g**irl	37	✓	✓	✓	✓	✓	✓
ea	**/i/**	**ea**t	**36**	✓	✓	✓	✓	✓	✓
ch	**/ʧ/**	**ch**ick	35	✓	✓	✓	✓	✓	✓
ar	**/ar/**	c**ar**	33	✓	✓	✓	✓	✓	
sh	**/ʃ/**	**sh**ort	**33**	✓	✓	✓	✓	✓	✓
o	**/ə/**	t**o**day	31						
a	**/e/**	l**a**zy	28						
ck	**/k/**	chi**ck**	30	✓			✓	✓	
i	**/ ɑɪ/**	h**i**	28						
a	**/ə/**	Christm**a**s	27						
ay	**/e/**	d**ay**	27	✓	✓	✓	✓	✓	✓
oo	**/u/**	f**oo**d	27	✓	✓	✓	✓		✓
th	**/θ/**	**th**in	27		✓	✓		✓	
th	**/ ð/**	**th**ere	27	✓	✓	✓	✓	✓	✓

ll	**/l/**	te**ll**	26						
ss	**/s/**	flo**ss**	25						
or	/ɔr/	p**or**k	24	✓	✓		✓	✓	
ou	**/**aʊ/	**ou**t	24	✓	✓	✓	✓		✓
le	/l̩/	litt**le**	24	✓					
a	**/ə/**	**a**top	23						
ing	/ɪŋ/	s**ing**	23						
ow	**/o/**	wind**ow**	22	✓		✓	✓	✓	✓
ce	**/s/**	ri**ce**	21						
o	/ ɔ/	d**o**g	20						
gr	**/gr/**	**gr**een	20	✓	✓	✓		✓	
st	**/st/**	**st**op	20	✓	✓				
c	**/s/**	**c**ity	19	✓	✓				
ai	**/e/**	p**ai**nt	19	✓	✓	✓		✓	✓
a	**/**ɑ**/**	w**a**nt	18						
o	/ʌ/	m**o**ther	18						
y	/aɪ/	cr**y**	16	✓	✓	✓	✓	✓	✓
o_e	**/o/**	r**o**s**e**	15	✓	✓	✓		✓	✓
br	**/br/**	**br**eak	15	✓	✓	✓		✓	
fr	**/fr/**	**fr**uit	15		✓			✓	
e	/i̇/	h**e**	14					✓	
i	**/ə/**	an**i**mal	14						
x	**/ks/**	bo**x**	14	✓	✓	✓	✓	✓	✓
ea	/ɛ/	br**ea**d	14						
ir	/ɝ/	b**ir**d	14	✓	✓	✓	✓	✓	
ur	/ɝ/	p**ur**se	14		✓	✓		✓	
cl	**/cl/**	**cl**ass	14	✓	✓			✓	
pr	**/pr/**	**pr**ice	14		✓	✓		✓	
tr	**/tr/**	**tr**ee	14	✓	✓			✓	
j	/dʒ/	**j**am	13	✓	✓	✓	✓	✓	✓
o_e	/ ʌ/	l**o**v**e**	13						
dr	**/dr/**	**dr**ive	12		✓			✓	
all	/ɔl/	b**all**	11						
tt	**/t/**	li**tt**le	11						
pl	**/pl/**	**pl**ay	11		✓	✓		✓	
ge	/dʒ/	garba**ge**	11						
a	**/ɛ/**	m**a**ny	10						
oo	/ʊ/	b**oo**k	10	✓	✓		✓		✓
ow	/aʊ/	h**ow**	10		✓	✓			
al	/ɔl/	**al**so	10						
bl	**/bl/**	**bl**ock	10	✓	✓	✓		✓	
se	**/s/**	hor**se**	10						
u	**/ju/**	f**u**ture	9			✓			
ng	/ŋ/	sa**ng**	9	✓				✓	
rr	**/r/**	bo**rr**ow	**9**						
sp	**/sp/**	**sp**oon	9	✓	✓	✓			
g	/dʒ/	**g**ym	8	✓	✓				
o	**/u/**	t**o**	8						
or	/ɚ/	doct**or**	8		✓	✓	✓		
wh	**/hw/**	**wh**ale	8	✓	✓	✓			

q(u)	**/kw/**	**qu**een	7	✓	✓	✓	✓	✓	✓
u	/ʊ/	p**u**sh	7						
u	**/u/**	st**u**dent	7						
z	**/z/**	**z**ebra	**7**	✓	✓	✓	✓	✓	✓
igh	/**aɪ**/	h**igh**	7	✓					
air	**/ɛr/**	h**air**	7				✓		
ear	**/ɪr/**	**ear**	7				✓		
ore	/**ɔr**/	m**ore**	7	✓					✓
tion	**/ʃən/**	nat**ion**	7						
ff	**/f/**	cli**ff**	7						
str	**/str/**	**str**aw	**7**	✓					
nk	**/ŋk/**	si**nk**	7	✓	✓				
se	**/z/**	no**se**	7						
e_e	**/i/**	th**e**s**e**	6	✓	✓			✓	
ie	/**aɪ**/	d**ie**	6		✓	✓		✓	✓
i_e	**/ɪ/**	gi**ve**	6	✓		✓			✓
oi	**/ɔɪ/**	c**oi**n	6	✓	✓	✓	✓		✓
are	**/ɛr/**	c**are**	6				✓		
wor	/**wɝ**/	w**or**k	6						
ph	**/f/**	**ph**one	**6**	✓	✓				
pp	**/p/**	ha**pp**y	**6**						
cr	**/cr/**	**cr**azy	6	✓	✓				
gl	**/gl/**	**gl**ad	6	✓	✓	✓		✓	
u	**/ə/**	Aug**u**st	5						
y	/**ɪ**/	g**y**m	5						
oa	**/o/**	b**oa**t	5		✓	✓		✓	✓
ou	/**ʌ**/	c**ou**ntry	5						
our	**/aʊr/**	h**our**	5						
kn	**/n/**	**kn**ife	**5**		✓				
ind	/**aɪnd**/	k**ind**	5						
fl	**/fl/**	**fl**y	5	✓	✓			✓	
-ful	**/fəl/**	beauti**ful**	5						
sm	**/sm/**	**sm**all	5	✓	✓	✓		✓	
sn	**/sn/**	**sn**ake	5		✓			✓	
a	**/ɪ/**	or**a**nge	4						
u	/**ɪ**/	b**u**sy	4						
aw	**/ɔ/**	cl**aw**	4		✓		✓		
ey	**/e/**	ob**ey**	4						
eigh	**/e/**	**eigh**t	4						
oy	**/ɔɪ/**	b**oy**	4	✓	✓	✓	✓		✓
ue	**/ʊ/**	T**ue**sday	4		✓			✓	
ture	**/ ʧɚ/**	fu**ture**	4						
gh	**/f/**	lau**gh**	4						
mm	**/m/**	co**mm**on	4						
al	**/ɔ/**	s**al**t	4		✓				
alk	/**ɔk**/	t**alk**	4						
nn	**/n/**	di**nn**er	4						
xc	**/ks/**	e**x**cited	4						
sl	**/sl/**	**sl**ow	4		✓			✓	
sk	**/sk/**	**sk**irt	4		✓			✓	

Appendix 4.2: Phonically regular words in the textbooks (Sample)
Note: Words that can be sounded out via learners existing phonics knowledge appear in bold print.

Happy English

Book 1 Unit	**Productive vocabulary**	**Receptive vocabulary**	**Alphabets**
1.	Ms., Wang, Alice, Bill, Dennis, I, am, what, is, your, my, name	ant, bird, cat, dog, hi	Aa, Bb, Cc, Dd
2.	great, fine, O.K., so-so, how, are, you	elephant, fish, goat, horse, thanks	Ee, Ff, Gg, Hh
3.	pencil, pen, eraser, ruler, this, that, it, a, an	insect, jacket, kite, number	Ii, Jj, Kk
4.	book, notebook, marker, glue, yes, no, not	locker, welcome	Ll, Mm, Nn
5.	bear, bee, snake, pig, they	ox, queen	Oo, Pp, Qq
6.	long, short, big, little, the	rabbit, turtle, wow, look	Rr, Ss, Tt
7.	happy, birthday, old, year, one, two, three, four, five, six, seven, eight, nine, ten	umbrella, vest, watch	Uu, Vv, Ww
8.	eleven, twelve, o'clock, time	box, yo-yo, zero, see, goodbye	Xx, Yy, Zz
Holiday	tree, card, present, star, merry Christmas, New Year	and, for, we, wish	
Book 2 Unit	**Productive vocabulary**	**Receptive vocabulary**	**phonics**
1.	good, morning, afternoon, evening, night	**cab**, **dad**	a, b, c, d ant, bird, cat, dog
2.	how, you, feel, I, happy, sad, angry, tired	egg, hen	e, f, g, h elephant, fish, goat, horse
3.	this, is, my, mom/mother, **dad**/father, sister, brother, nice, meet, too	**kid**, **lid**	i, j, k, l insect, jacket, kite, locker
4.	who, she, he, neighbor, friend, classmate, teacher	**mop**	m, n, o, p marker, notebook, ox, **pig**
5.	tall, short, **fat**, thin, **yes**, no	**ten**	q, r, s, t queen, rabbit, snake, turtle
6.	matter, head, stomach, arm(s), **leg**(s), hurt	**cup**, **hug**	u, v, w umbrella, **vest**, watch
7.	**his**, her, are, **big**, long, eye(s), ear(s), nose, mouth, hair	**box**, **six**	x, y, z box, yo-yo, zero
Holiday	Mother's Day, love, sweet, **gift**, flowers		
Book 3	**Productive vocabulary**	**Receptive**	**Phonics**

Unit		**vocabulary**	
1.	how, weather, rainy, sunny, **hot**, cold, **it**	**big, pig, cab, cap**	b, p **big, cab/ pig, cap**
2.	don't, forget, your, umbrella, sunglasses, **hat**, coat	two, **bad**, **bat**, card, cart	d, t **bad**, card/ **bat**, cart
3.	what, color, orange, purple, yellow, green	put, goat, **bag**, **back**	g, c/ck goat, **bag**/ coat/ **back**
4.	like, pink, blue, **red**, **black**, white	queen, king, quilt, **kilt**	q, k queen, quilt/ king, **kilt**
5.	we, whose, this, **cap**, book **bag**, pencil **box**, lunch **box**	**fan, van**, leaf, leave	f, v **fan**, leaf/ **van**, leave
6.	where, notebook, **desk**, chair, **in**, **on**	**bus**, buzz, Sue, zoo	s,z **bus**, Sue/ buzz, zoo
7.	today, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday	meat, neat, lime, line	m, n meat, lime/ neat, line
8.	Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday	light, right, doll, door	l, r light, doll/ right, door
Holiday	pumpkin, **mask**, candy, witch		
Book 4 Unit	**Productive vocabulary**	**Receptive vocabulary**	**Phonics**
1.	time, **ten** o five, twelve, fifteen, two thirty, **six** forty-five, nine fifty-five	**ant**, **pants**, **can**, **fat**, **cat**	an, at **ant**, **pants**, **can**/ **fat**, **cat**, **hat**
2.	when, late, breakfast, lunch, **snack**, dinner	**pen**, **hen**, **bed**	ed, en **red, Ted, bed/ pen, ten, hen**
3.	ice cream, cake, candy, chocolate	thin, **insect**, **pin, wig**, wear	ig, in **big, pig, wig/ insect,** thin, **pin**
4.	thirsty, have, any, some, juice, water, soda, **milk**	queen, king, quilt, kilt	review short a, e, i
5.	hungry, want, eat, rice, noodles, fish, chicken	**pot, sock**, locker, **rock**	ot, ock **hot, not, pot/ sock,** locker, **rock**
6.	please, pass, the, salt, sugar, pepper, ketchup, welcome	**drum, gum, sun, fun, run**	um, un umbrella, **drum, gum/ sun, fun, run**
7.	how much, change, one dollar, five dollars, **ten** dollars, fifty dollars, one hundred dollars	meat, neat, lime, line	review a, e, I, o, u

Appendix 6.1 Overall results of the questionnaire

Questionnaire item	strongly disagree	disagree	not sure	agree	strongly agree	mean agreement score
Q1 pronunciation system	3.3	6	17.4	48.8	28.8	3.84
Q2 read new words	8	25.1	21.7	32.6	12.1	3.16
Q3 phonics & K.K.	6.2	19.7	24.3	37	12	3.29
Q4 no need for K.K	23.1	40.5	19.2	11.5	5.3	2.35
Q5 sounds of letters	10.5	22.5	20.8	31.5	14.7	3.17
Q6 phonics & reading	28.1	45	14.9	8.9	2.8	2.12
Q7 phonics & spelling	1.5	7	14.2	51.7	25.5	3.93
Q8 meaning and sounds	7.3	20.1	18.6	35.3	18.2	3.37
Q9 reading and speaking	11.9	29.5	21.9	24.3	11.7	2.94
Q10 reading incentives	6.4	11.7	13	43.3	25.3	3.7
Q11 like English reading	16	46.9	16.4	11.3	9.3	2.61
Q12 like Chinese reading	2.1	3.6	4.6	35.7	53.8	4.36
Q13 teach all new words	6.2	12	13.8	41.1	26.3	3.7
Q14 teach reading content	4.2	7.1	8.4	47.4	32.3	3.97
Q15 sound-letter links	6.6	15.2	12	47.6	18.2	3.56
Q16 learn phonics well	11.8	20.4	27.9	28.1	11.8	3.08
Q17 read new word easily	17	36.6	11.7	24.7	10	2.74
Q18 certain of new word sounds	21.8	45.2	11.9	14.8	6.3	2.39
Q19 remember new word sounds	9.1	17.9	24.6	31.8	16.4	3.29
Q20 used ZYFH	28.2	14.1	7	33.8	16.9	3.11
Q21 still use ZYFH	36.6	26.8	5.6	26.8	4.2	2.60
Q22 unfamiliar text	5.7	15.7	4.3	54.3	20	3.67
Q23 familiar text	5.6	41.9	14.9	22.1	15.5	2.97
Q24 spell unknown words	7.5	13.1	22.3	37.2	19.9	3.49

Percentage distribution of responses to Q25

Questionnaire item	Letter name repetition	Repeatedly copy words	Word repetition	Visual memory	Applying phonics knowledge	others
Q25 spelling methods	66.1	53.8	69.3	65.9	50.1	5.37

Appendix 7.1 : List of the participants' spelling errors

(Word 4 & Word 6-10)

pharynx	prohibit	mnemonic	croquette	extrinsic
pheryex	*prohipit*	*minmonic*	***croqette***	*extrinsix*
pharyex	*phohibit*	*mnenoic*	***croqette***	*extrinsin*
pharyx	*phohitbit*	*monmicon*	*crotteque*	*extrinnic*
phanryx	*prohiot*	*moemonic*	*croque*	*extrinasic*
phynax	*porhi*	*mitince*	*croqutte*	*excrsic*
		mnemoioc	*crouotte*	*exsicn*
		mnemic	***croqet***	*extrincix*
		memmnic	*croqutte*	*extrinnic*
		mnemcnic	***croqett***	
		mnemonie		
		mnomeic		
		mnmonic		

(Word 11-Word 15)

millennium	contradict	destructive	bureaucracy	megalomaniac
millennia	*contract*	destruetion	*bureaucracry*	*megalomaneic*
millemmum	contracian	*destrutive*	buranucrac	*…manic*
millennume	condratict	***distructive***	*burea*	*megalon*
millennmum	*contri*	*descructive*	***bureucracy***	*megalomeniac*
millenium	cantraty	*destru*	**bureaucrazy**	*megalamonic*
milleum	*condrict*	**destroctive**	*bureauracy*	*megalomaic*
millunum	contrabict	destruvel	*bureau*	*mogalomangic*
mill	conteradict	*destrcr*	*beracucracy*	*manalg*
millinnum	*contradion*	destruminc	*boreaucracry*	*megalo*
millenmum	contrcet	*destructiver*	bureocry	*megalo*
millunniun	*contr*	*drescuct*	bureaucraty	*megalomiac*
milleuuium	*contratict*	*destru*	*baucracy*	*megealoman*
milnnem	*contradit*	***distructive***	bureocry	*maglomaninc*
milleunntem	*condricton*	destrative	becureica	*meglomanic*
milleuum	comdrictod	*destruc*	*bureac*	*megalomiac*
millent	*contraic*	**destractive**	buremucricy	*megalomanaic*
millnnum	*coinradict*	dstructicy	*berucrcy*	*megalomanmic*
millennuim	contrabict	destrac	*burery*	*meglommonic*
milennuem		*desturetive*	*bereau*	*megalomanmic*
		destruvtis	*burcaucrace*	*magmlominc*
		destrustie	*berucay*	*megalomanic*
		destruxtik	*burcea*	*maglom*
		destruminc	*burearcracy*	*megaloman*
		desttructive	*bucray*	*melo*
		detructive	*bureaurcay*	*magaic*
			bare	*megloman*
			bureacuey	*meal*
			buracecrcay	*megalomanic*
			bureaucary	*megalmoginc*
			buremucricy	*magelomanice*
			bureaucrasy	*meglocmong*
			brau	*megal*
				meglomanic
				megalanic
				megalo
				maglonamgie
				megalo
				magmiominc
				megolamon
				maglon

(Word 16-Word 18)

clairvoyance	**alternatively**	**instinctively**
…von	*alteriv...ely*	*instin...ly*
clairvoyonce	*altertively*	*instintively*
claircoyr	*alteratively*	*instivectily*
clainvoyonce	*alte*	*instinctily*
clear	alternictly	instinatively
clairvolinc	*alternevetely*	*inst*
clairvlance	*alterna*	*instictily*
clairvoncle	*alternavtily*	*instiv*
clairolyance	*alternatly*	instinctsvaly
clairyoance	*altnervitly*	*Instintlly*
clair	*alterna*	*insticly*
claircance	*alternavely*	*instincitively*
clain	*alternately*	instinvastlly
clairvanyoce	*alternately*	*instenivetly*
clairvoycave	*alternate*	instinctrvly
clair	*alternately*	*instin*
claircody	*alter*	*instince*
clairvoy	*alterantirely*	*instintly*
clairoxance	*alternlty*	*instive*
clairvoyaince	*altarly*	*instely*
clarvo	alteralmerly	*intescitely*
	alternal	*instenctilively*
	.alter..tivaly	*etinenctively*
	alternalivey	*instinctly*
	alternavely	instarnly
	alternatily	*istinvely*
		intein
		instinc
		instintively
		instinclivey
		instinctrvly
		instrictenvoly

List of each participant's accuracy rate (%)

S1	28	**S11**	17	**S21**	50	**S31**	44
S2	56	**S12**	22	**S22**	50	**S32**	72
S3	17	**S13**	17	**S23**	28	**S33**	56
S4	22	**S14**	28	**S24**	33	**S34**	39
S5	56	**S15**	33	**S25**	56	**S35**	22
S6	17	**S16**	17	**S26**	50	**S36**	39
S7	22	**S17**	28	**S27**	50	**S37**	39
S8	56	**S18**	50	**S28**	17	**S38**	33
S9:	6	**S19**	28	**S29**	17	**S39**	39
S10	39	**S20**	33	**S30**	28	**S40**	50

Appendix 7.2 Results of the Word learning task

Student	Test Score		
	Visual	Audio	Spellling
S1	16	12 (xyyxxyxxyxxxyxyx -4)	8
S2	16	14 (xyyxyyxxyxxyyxyx -2)	8
S3	16	14 (xyyxyyxxyxxyyxyx -2)	8
S4	16	12 (xyyxyyxxyxxyyxxy -4)	8
S5	16	7 (xxyyyxxxyyyxyxxy -9)	8
S6	16	13 (xyxxyyxxxxxyxxyx -3)	8
S7	16	13 (xyxxyyxxyxxyyxyx -3)	8
S8	16	4 (xxyyxxxyyyyxxxyy -12)	7
S9	16	13 (xyxxyyxxyxxyyxyx -3)	8
S10	16	14 (xyyxyxyxxxxyyxyy -2)	8
S11	16	14 (xyyxyyyxxxyxyxyx -2)	8
S12	16	10 (xxyxyyyxyyxyxyxx -6)	8
S13	16	12 (yyyxyyxxxxyxyxyx -4)	8
S14	16	9 (xyyyyyxyyyyyxxyx -7)	8
S15	16	11 (yyxxyyyyxyxyxxyx -5)	8
S16	16	14 (xyyxyyyxxxxxyxyy -2)	8
S17	16	12 (xyyxyyxxyxxxyyyx -4)	8
S18	16	9 (xxyyyxyxyyxxyxxy -7)	8
S19	16	13 (xyxyyyxxxxxyyxyx -3)	8
S20	16	11 (xyyxyyxyyyxxyxyx -5)	8
S21	16	8 (yxxxyyxyyxxxyxyy -8)	8
S22	16	11 (xxyxyyxxyyxyyxxx -5)	8
S23	16	10 (xyyyyxxyxyxxyxyx -6)	8
S24	16	8 (xyyyxxxyyxxxyxxx -8)	8
S25	16	10 (xyxyyyyyyyxxyxxx -6)	8
S26	16	7 (xyxyyyxyyyyxyxxx -9)	8
S27	16	9 (xyxyyyyyyyyyyxyy -7)	8
S28	16	10 (xyxyyyxxxyyyyxxx -6)	8
S29	16	11 (xyyxyyxyyxxxyyyx -5)	8
S30	16	7 (yxyxyyxxxyyxyyxy -9)	8
S31	16	10 (xyyyyxyyxyyxyxyx -6)	8
S32	16	13 (xyyxyyxxxyxyxxyx -3)	8
S33	16	14 (xyyxyyxxyxxyyxyx -2)	8
S34	16	10 (xyyxyxyyyxyxyxxx -6)	8
S35	16	13 (xyyxyyyyyyxyyxyx -3)	8
S36	16	11(xyxxyxxxxxxyxxxx -5)	8
S37	16	9 (xxyyxyyyyyxyyxxy -7)	8
S38	16	10 (xyyxyxyxyyyyyyxx -6)	8
S39	16	11 (xyyxyyxxyyyyyxxx -5)	8
S40	16	8 (xyyyyxyxyxyxxyxx -8)	8
Average accuracy rate	16 (100%)	10.8 (68%)	7.95 (99%)

Appendix 7.3 Sample transcription of the oral reading results (S1-S3)

S1 **The sun and the wind**

The Wind and the Sun were [can't read this one] **disputing** /dɪspʊtɪŋ/ which was the stronger. Suddenly they saw a traveller coming down the (and the) road, and the Sun said: "I see a way to decide our dispute /dɪspʊt/ Whichever of us can [I can't read this one] cause /kɔs/ that (the) traveller to take off his **cloak** shall be regarded /rɜ- rɪgardɪd/ as the stronger. You begin." So the Sun retired behind a cloud /kʊd/, and the Wind began to blow /blʊ-blo/ as hard as it could upon /əpʊ-ʌpʊn -ʌpɑn/ the traveller. But the harder he blew the more closely did the traveller wrap /wrɔp/ his cloak round him, till at last the Wind had to give up in despair (des-pair). Then the Sun came out and shone in all his glory upon /ʌpɑn/ the traveller, who soon found it too hot to walk with his cloak on.

Kindness effects /ɪfkɪs/ *more than severity* /sɛvərɪti/

S2

The sun and the wind

The Wind and the Sun were disputing /dɪspʊtɪŋ/ which was the stronger. Suddenly they saw a (…) traveller coming down the road, and the Sun said: "I see a way to decide our dispute /dɪspʊt/. Whichever of us can (…) cause /kjuz/ that traveller to take off his **cloak** /klɑk/ shall be regarded /rɜgardɪd/as the stronger. You begin." So the Sun retired behind a cloud /kʊd/, and the Wind began to blow as hard as it could upon /ʌpən / the traveller. But the harder he blew the more closely did the traveller wrap his cloak /klɑk/ round him, till at last the Wind had to give up in despair (des-pair). Then the Sun came out and shone (shine) in all his glory /glɑ- glori/ upon /ʌpən / the traveller, who soon found it too hot to walk with his cloak /klok/ on.

Kindness /kaɪndnɛs/ effects /ɛfɛkts/ more than severity /sɛvərətɪ/

S3 **The sun and the wind**

The Wind and the Sun were **disputing** /dɪspʊtɪŋ/ which was the stronger. Suddenly they saw a traveller coming down the road, and the Sun said: "I see a way to decide our **dispute** /dɪspʊt/ Whichever of us can cause /kɜs/ that traveller to take off his **cloak** shall be regarded /rɪgard/ as the stronger. You begin." So the Sun retired behind a cloud, and the Wind began to blow as hard as it could upon /ʌpɑn/ the traveller. But the harder he blew the more closely did the traveller **wrap** his cloak round him, till at last the Wind had to give up in despair. Then the Sun came out and shone in all his glory upon /ʌpɑn/ the traveller, who soon found it too hot to walk with his cloak on.

Kindness effects /ɛfɛkts/ more than severity /sɛvətɪ/

Appendix 7.4 Results of the vowel distinction test

Student	**Results**	**Level of difficulty marked**	**Score**
Answer			**15 (100%)**
S1	SDSDDSD	ordinary	7 (67%)
S2	SDSDSDS	easy	9 (60%)
S3	SDSSDSD	very easy	9 (60%)
S4	SSSSDDD	ordinary	10 (67%)
S5	SSDSDSD	ordinary	5 (33%)
S6	SSSSDSD	ordinary	9 (60%)
S7	SDSDDSD	ordinary	6 (40%)
S8	SSDSSSS	very difficult	5 (33%)
S9	SDSSDDD	very difficult	13 (87%)
S10	SSSSSSS	very difficult	9 (60%)
S11	SDDDDDD	ordinary	8 (53%)
S12	SDDDDSD	ordinary	7 (67%)
S13	SDDSDSD	difficult	8 (53%)
S14	SDDSDSS	difficult	11 (73%)
S15	SDSDDDD	easy	8 (53%)
S16	SDSSDSS	easy	10 (67%)
S17	SDSSDSS	ordinary	10 (67%)
S18	SSDSDDD	ordinary	9 (60%)
S19	SSDDDSD	ordinary	5 (33%)
S20	DSDDDDD	ordinary	8 (53%)
S21	SDDSDDD	very difficult	7 (67%)
S22	SDDDDDD	difficult	6 (60%)
S23	SDSSDSD	difficult	9 (60%)
S24	SDDSDDD	ordinary	7 (67%)
S25	SDDDSSS	ordinary	6 (40%)
S26	SSDDSSS	difficult	7 (67%)
S27	SDSSDSS	easy	10 (67%)
S28	SSDSDDD	easy	7 (67%)
S29	DDSSDDD	very difficult	6 (40%)
S30	SDDSSSS	ordinary	7 (67%)
S31	SSDDDSS	ordinary	8 (53%)
S32	SDDDSDD	ordinary	8 (53%)
S33	SDSDDDD	ordinary	6 (40%)
S34	SDDDDSD	ordinary	7 (67%)
S35	SSSSSSS	ordinary	8 (53%)
S36	SDSSDSD	ordinary	6 (40%)
S37	SDDSDSD	ordinary	7 (67%)
S38	DSDSDSD	easy	9 (60%)
S39	SDSDDSS	ordinary	9 (60%)
S40	SDDDDDD	ordinary	8 (53%)
Average accuracy rate: 7.85 (52%)			